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ORIGINAL ARTICLES.

THE MEDICO-LEGAL ASPECT OF ABDOMINAL SECTION.

Read in the Section of Medical Jurisprudence, at the Forty-first Annual Meeting of the American Medical Association, Nashville, May, 1890.

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A year ago I had the pleasure of presenting to the Section on Obstetrics and Diseases of Women and Children, American Medical Association, a paper on "Concealed Pregnancy, and its Relation to Abdominal Surgery." In the preparation of that paper considerable time was devoted to the compiling of a table of cases wherein abdominal section revealed an undiagnosticated pregnancy. This table is measurably complete, and journals, by extract and summaries, have given a wide circulation to the paper and the table. While that table was in preparation, from letters and other sources, my attention was called to the medico-legal aspect of abdominal surgery, in its general relations, and to the probable testimony of expert witnesses in the cases where an action for malpractice is brought. For this, and the other reason that two American surgeons have already been compelled to plead to an indictment of manslaughter, it seems to me profitable to join this paper rather as a supplement to the one of last year by considering certain medico-legal points of abdominal surgery. A letter from a very eminent American surgeon in relation to one of these cases, says, "For my part I do not see how the error occurred," and I have numerous other letters stating that we ought never to be unable to diagnosticate pregnancy, especially after the fourth month. Testimony such as this would have been very dangerous to such as Professor Freund, Karstrom, Wm. Varian, Professor Czerny, Professor Byford and others equally as competent, had they been placed on trial for malpractice.

We all may at any moment be placed upon our defense by clamor of the public press, which seldom, very seldom, gets down on the right side of any medical question. Dr. Mary A. Dixon Jones is a conspicuous example of newspaper persecution, which happily she overwhelmed. Designing attorneys, with prospects of good fees, may urge unwilling people into litigation, or avaricious relatives may, failing in levying blackmail, institute an action. Motives no different from these give rise to nine-tenths of all actions for malpractice.

In case of the death of the patient the surgeon may be proceeded against, criminally, by an indictment for manslaughter, and civilly, by an action for damages. One action criminal, is no bar to another civil, for damages, nor can the result in one prejudice the result in the other. If the surgeon be proceeded against by an indictment, in my own State, New York, the indictment is drawn under the provisions of the Penal Code, Section 195, viz.: "A person who, by an action of negligence or misconduct, in a business or employment in which he is engaged, or by any unlawful negligence or reckless act, occasions the death of a human being, is guilty of manslaughter in the second degree."

In States where no statutory provisions have been enacted, the indictment is drawn at common law. At common law, "If a physician or surgeon or any person assuming to be such, by his gross negligence, or gross ignorance, or by his rashness or want of proper caution, causes the death of his patient, it is manslaughter." (Field's Medico-Legal Guide.)

As the statutory provision is drawn from the common law and depends for its interpretation on the interpretation of the common law, we can find no clearer demonstration than that of Lord Ellinborough (Rex *vs.* Williamson, 3 C. & P. 635), in his charge to the jury. He says, "To substantiate the charge of manslaughter the defendant must have been guilty of criminal misconduct arising, either from the grossest ignorance or the most criminal intention. One or the other of these is necessary to make him guilty of that criminal negligence and misconduct which was essential to make out a case of manslaughter. It does not appear that there was any want of attention on his part and from the evidence of the witnesses, on his behalf, he possessed some degree of skill." (The defendant in this case had forcibly torn away a prolapsed uterus, following delivery). "I think the defendant could

not possibly commit such mistakes in the exercise of his unclouded faculties, and I own that it appears to me if you find the defendant guilty of manslaughter, it will tend to encompass a most important and anxious profession with such dangers as will deter reflecting men from entering into it." (The verdict not guilty was entered in this case). So far as I am able to learn, charges to juries have been uniformly that gross neglect or gross ignorance, or both, must be shown on the part of the prosecution beyond a reasonable doubt before conviction can be had. Then, as has already been shown, the prosecution must stand or fall upon the proof of gross neglience or gross ignorance, one or both, or in other words, criminal misconduct. Gross ignorance and gross negligence are both questions of fact, and must be passed upon by a jury. In consequence, the standard of care and skill form that, and other facts and conditions, must be a variable one. But they are not questions of fact purely. It is the duty of the court to charge the jury with reference to degrees of care and skill by definition and illustration. It has been maintained that it is impossible to make precise distinctions between negligence and gross negligence. Mr. Justice Bradley (U. S. S. C. Reports,) says, "In deciding the question of negligence where there is any conflicting testimony, and ordinarily where there is not, all the facts and circumstances should be submitted to the jury with instructions to the jury that in deciding whether there was ordinary care or gross negligence, they are to consider the position of the party, his business, his duties and responsibilities, and that the same act which under some circumstances would not show any degree of negligence might under others, show want of ordinary care; and under still other circumstances might show gross negligence, and this should be settled by the jury as a question of fact, and not by the court as a question of law."

Gross ignorance is open to the same objection that gross negligence is, viz.: of being relative. That which under some circumstances would be ordinary skill, in other circumstances would be ignorance, and, in still other circumstances, would be gross ignorance. The very favorable rule of law has been laid down that, "The least amount of skill therefore, with which a fair proportion of the practitioners of a given locality are endowed, is taken as a criterion by which to judge the physician's ability or skill." (Bouvier's Inst. 1004-5.) "The surgeon must adopt the means and apply the skill well settled by the highest lights of his profession. He must possess and practically exercise that degree and amount of skill, knowledge and science which the leading authorities have pronounced as the result of their researches and experience up to the time, or within a reasonable time before the issue or question to be determined is made." (Elwell on Malp., 55.)

Again surgeons residing in the large cities with hospitals and other superior advantages, will be required to possess greater skill than those living in localities remote from such advantages, and there seems to be a concensus of judicial opinion that unless specifically contracted for, the surgeon is only bound to exercise the ordinary care and skill.

By way of illustration let me present a single case the kind of which is not likely to occur again. Surgeon A. is called to a case of abdominal tumor. By examination he finds that the patient is thirty-six years, married twenty years, no children. The tumor has been growing eight months. Patient has never menstruated regularly, often not flowing for five or six months, and now has not menstruated for eight months. She has vomited and been constipated at intervals, has felt no quickening and does not believe herself pregnant. Vaginal examination reveals a cervix high up, somewhat enlarged, os uteri not patulous or particularly enlarged, unable to make out body of uterus. Upon abdominal examination a distinctly fluctuating tumor is made out located centrally and evidently from the physical signs contains fluid within a cyst. The diagnosis of ovarian cyst is made, and an operation proceeded with. Upon opening the abdomen the tumor appears. The walls are thin and not of unusual appearance; the trocar is introduced and six quarts of fluid withdrawn, after which the operator finds he has tapped a pregnant uterus. He completes the operation by a Cæsarian section, and in five days the woman dies of septicæmia. Surgeon A. is indicted for manslaughter, the indictment averring that he through gross ignorance, by gross negligence, by rashness or want of proper caution, caused the death of his patient. The indictment is drawn under the provisions of the common law of the State in which he resides. Surgeon A. pleads not guilty, and the trial is proceeded with. The prosecution prove the facts as have been heretofore stated, and call expert witnesses to prove gross ignorance, gross negligence, want of caution or rashness. The only way they can demonstrate the facts so essential for conviction, is by expert testimony. The chief question involved and presented with earnestness: Was there sufficient symptoms of pregnacy present to arouse the suspicion of pregnancy, and did the defendant exercise sufficient care and skill in making his diagnosis? The opinion of the witnesses for the prosecution is that sufficient symptoms, amenorrhœa, vomiting and the presence of a tumor was sufficient evidence of pregnancy to require a most searching examination before pregnancy could be excluded, and that the defendant was negligent and unskilled in his examination. It is shown that he did not examine the breasts for the changes that

occur in pregnancy, that he did not inspect the vagina for the change in color (wine leaf), he did not seek to illicit ballottement, that he did not lay sufficient stress upon these and other symptoms as to the probabilities of pregnancy, and that a proper explanation of the possibilities of her condition was not made to the patient and to her friends, previous to the operation. That no suggestion was made by the operator as to the necessity of exploratory incision, if at all in doubt as to the diagnosis.

The defendant showed by competent witnesses that he had exercised the average care and skill in examining the patient, that he had not acted with undue haste or rashness, and that he was honest in his belief that the case was one of ovarian cyst. He admitted having committed an error of judgment, which he believed was liable to occur in the hands of surgeons of good reputation under existing circumstances. The case was ably tried and the jury brought in a verdict of guilty. It was carried to the next court, and there the court on argument overruled the verdict, presenting some very strong points on the subject, part of the line of argument being that the surgeon was shown to have been a man of great experience, of large practice, a man who stood extremely well with his professional brethren, who had for years maintained a high reputation, very far above the average. That the verdict rendered by the jury was not for the public good and that the conviction ought not to stand. No further attempt was made by the prosecution.

Another case which illustrates ninety-nine per cent. of the cases of concealed pregnancy, where an operation has been done, is surely not so easy of diagnosis, being that of Surgeon B., having a patient aged fifty, married many years, always sterile. Fibroid had existed for twenty years or more, pregnancy not suspected. A hysterectomy was done for the removal of the fibroid, and when the uterus was opened, to his own and everybody's surprise, the surgeon brought out a buxom fœtus which seemed also very much surprised, for it immediately began to cry. It proved to be at least eight months old and all right. There was also a very large fibroid which was very vascular. Unfortunately the patient died soon after. Surgeon B. was tried for manslaughter and acquitted.

Perhaps one of the most unpleasant cases of malignant persecution is the case of Surgeon C., where after careful explanation to the patient of the physiological change that would take place, and her condition after the operation, it was finally decided to remove the uterine appendages. The operation was done, the patient recovered, and some months afterward a suit was brought against Surgeon C. for wilful mutilation. It was shown that all proper explanation had been made to the patient and to her friends, that the operation had been skillfully done, and the patient made a good and speedy recovery, and yet the jury disagreed. A second trial took place some time after and the surgeon was acquitted, yet he had been to great expense in his defense and had lost much valuable time, but the laws of his State afforded him no redress whatever. I might cite other cases, but can say earnestly, and for the comfort of the honest and well-meaning surgeon, that I have not been able to find a case where conviction has occurred and the higher courts have sustained the verdict. A careful study of the rulings of the courts and charges made by judges to juries in such cases, brings up prominently the fact that the law recognizes no one school of medicine. The doctor must practice the necessary skill in the diagnosis of his cases and he must exercise the average degree of ability in the doing of the operation, and that he is not supposed to do more than is required of the person possessing an average amount of skill. Another point that seems to have been presented with considerable force by some of the rulings, is contributory negligence on the part of plaintiffs. In several operations it was shown that the plaintiff wilfully withheld from the surgeon certain symptoms, and that she purposely misled him by making statements of conditions that did not really exist. This would have been the case had Drs. Prince and Varian's cases been presented for trial. Beyond a doubt on these points alone plaintiffs would have been ruled out of court.

Referring once more to the case of Dr. Jones, which has been so recently before the profession, she says in answer to a letter of mine that "She is glad to know that the subject of the medico-legal aspect of abdominal section is to come up for discussion at this meeting," and states as follows: "There is a necessity to look into these subjects. Under the existing laws of the State of New York, a surgeon has no protection. If, in his efforts to relieve the sick and suffering, he decides to do abdominal section, or indeed to perform any surgical operation, and if, notwithstanding his best directed efforts, the patient should die, he is liable to, or may have a suit for malpractice or an indictment for manslaughter in the second degree. If the patient lives and does well there may still be a suit for malpractice. The surgeon may spend his strength, his time and give his best efforts to relieve the suffering poor, yet under the law, and by the law, these same persons, for whom he has labored, may turn and rend him and use every effort for his destruction, personal and professional. Malice at any time may so construe the law that at any unexpected moment the surgeon or physician may find himself in the most serious and unpleasant difficulties. Thus it is simply dangerous to practice medicine and surgery in the State of New York.

A distinguished lawyer said to me the other day, that however well prepared he might be, yet he would not, as the law at present stands, *dare* to practice medicine, and he thought he had about as much courage as most people.

Section 200 of the Penal Code, says:

Liability of Physicians.—A physician or surgeon who being in a state of intoxication administers a poisonous drug or does any other act as a physician or surgeon to another person which produces the death of the latter is guilty of manslaughter in the second degree.

But according to Judge Bartlett's ruling, "Physicians are also liable under Section 193 of the Penal Code in connection with the proceeding provisions." Subdivision 3 of Section 193 says: "By any act of procurement or culpable negligence." This comprehends a great deal and can be made to mean anything. A physician or surgeon though he may have the best preparation, yet by any act of procurement as administration of medicine or surgical operation, if the patient dies he may be found guilty of culpable negligence. There will always be found physicians who would have used different procedures, or advised another course as preferable.

If a surgeon for the welfare of a patient deems it best for him or her to perform abdominal section and death ensues, malice can, under subdivision 3 of Section 193, have him indicted for manslaughter in the second degree.

If a surgeon neglects to perform abdominal section, when in the estimation of another it should have been performed, and the patient dies in consequence of the pelvic conditions, that surgeon under Subdivision 3 of Section 193, of the Penal Code, can be found guilty of culpable neglect, and indicted for manslaughter in the second degree.

Judge Bartlett says further: "If a person assumes a certain amount of skill, and does not develop that amount of skill, his act is guilty of culpable negligence." How largely malice or blackmail may misjudge this skill and use the law for direct persecution, or as the *New York Medical Journal* puts it, for "Roasting Physicians."

Notwithstanding the strong points she presents, I am of the opinion that the courts have ruled in justice to all concerned in these cases. It is necessary that the public have proper protection, that while we must advance in our profession only by experience and accumulated skill in the doing of untried operations, yet in their performance great caution and the careful study of cases becomes a necessity. It will be observed that, while it has been a great hardship and required much resolution for the surgeons who have been attacked to defend themselves, yet they have in the end triumphed.

What I would like to see as the result of this discussion is, the betterment of our laws in this, that surgeons may have better protection in the recovery for loss of time, for expenses they have been put to, when it is proven that the case was urged by some disreputable lawyer, or by those personally malignant, within or without the profession.

My conclusions would then be:

1. That we should exercise the greatest care in the examination of our cases of doubtful diagnosis.

2. That when in doubt we should lay great stress upon the necessity of an exploratory incision, and make a very proper explanation of what this means to the patient and friends.

3. That in the cases thus far brought to trial, we have reason to believe that the judges in their rulings have treated our profession with great fairness, the strong points being, that the public good is not subserved by undue and wilful persecution of the surgeon who has shown the proper amount of intelligence in his profession.

4. That we should seek still to have the law so made in our favor as to eliminate the cases of wilful prosecution.

5. That in the careful study of these cases we have presented the lamentable condition of expert testimony. Men absolutely ignorant upon the subject, men who have never done an operation of any merit in surgery, being allowed to come upon the witness stand and testify as experts.

THE MEDICO-LEGAL ASPECT OF EXPLORATORY LAPAROTOMY.

Read in the Section of Medical Jurisprudence at the Forty-first Annual Meeting of the American Medical Association, held in Nashville, Tenn., May, 1890.

BY W. C. WILE, A.M., M.D.,
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All abdominal operations which involve section of the peritoneum are in a measure exploratory. The parts we seek are out of sight, and it is only from the signs, symptoms and history of the case that we can make a diagnosis; and the diagnosis warranting it, we are justified in entering the cavity. We are justified in entering the abdominal cavity, I say, for in the present light of antiseptic surgery, and with the statistics which we have to-day of successful laparotomies, hesitation on the part of the surgeon to attempt *e. g.* to free an obstructed intestine when the symptoms pointing to it are manifest; or to proceed to surgical interference in a case of appendicitis when the indications for such interference are clear; or to explore in cases of abdominal tumors where diagnosis is probable and the life of the patient is endangered; or even to explore where, in cases of profound shock proceeding from some internal source which points to lesion of the abdominal viscera or pelvic contents—hesitation to proceed to surgical relief in such cases is negligence on

the part of the surgeon, as much so as delay to open a knee-joint filled with pus, or to tie a severed femoral artery. Abdominal surgery to day is a recognized proceeding, and given a case, with diagnosis as clearly defined as is possible, where prolonged suffering or death is imminent from a continuation of affairs, nothing short of exploration to ascertain exactly what the matter may be and with a view to affording relief, is warranted. How true is the affirmation of A. W. Mayo Robson, F.R.C.S., that an exploratory operation has frequently proved curative when apparently nothing beyond incision and exploration by the fingers has been effective. The following case probably explains the nature of these cures. In the Hospitals ("Tidende," 1889), Dr. Howitz describes a case of strongly adherent omentum, with displacement of the stomach and intestines. The patient had been treated for gastric ulcer, also for "the womb;" pessaries had been applied, and douching and massage of the hypogastrium practiced in vain. Dr. Howitz carefully liberated the omental adhesions, so that the displaced viscera returned to their normal positions. All the pain and discomfort from which the patient had so long suffered rapidly disappeared.

How much assurance can we obtain from the successful statistics of Mr. Lawson Tait, who is reported to have performed 135 consecutive laparotomies without a death! Successful abdominal operations with different degrees of extensiveness have been performed upon every abdominal organ. The progress of surgery in this direction is truly marvelous, and as we review in our minds the list of operations which have been successfully performed for gastrotomy, pylorectomy, gastroenterostomy, gunshot wounds of the stomach and intestines, gunshot wounds of the stomach and liver, resection of the intestines, intestinal obstruction, typhlitis, perityphlitis and appendicitis, colotomy, extraperitoneal hepatotomy, hepatorraphy, hydatid cysts of the liver, cholecystotomy with ligature of the cystic duct, cholecystenterostomy, cyst of the pancreas, abscess of the spleen, splenectomy, hydatid cysts, wandering or floating spleen, rupture of the kidney, nephrorraphy, nephrectomy, diaphragmatic hernia, and the operations for inguinal hernia, we cannot stop short of wonder at the scientific perfection of surgery at the present day.

Now, in the light of all these attainments in abdominal surgery, what shall we do when we are consulted in reference to some condition existing within the abdominal cavity which we recognize as probably jeopardizing the patient's life? Shall we mask the only possibilities of relief through interference, by simple palliation? Shall we put our trust off, assuming ignorance as to any further relief than simply the relief from pain, and keeping the vital machine in motion, until the wheels become clogged, or some pipe bursts? Shall we, because the operation is attended with some danger, deprive the patient of the only possible chance of escape? And shall the reward be awaiting us, that if the condition of that man or woman is in whatever manner made worse from the attempt, we shall have to suffer the penalty of the law for our efforts? How grand, on the one hand, the idea; on the other how small! But it is with all possible care and precaution that any such surgical step should be undertaken. The first great step to be considered before proposing, or consenting to operate, is *diagnosis*. The symptoms of obstructed intestine or of ruptured extra-uterine pregnancy are fairly well defined, and, placed in one side of the balance, operative interference; what can be found to counterbalance the other side, when on the one hand the obstruction has remained for three days, if forsooth so long; or on the other hand, our ruptured tube has been recognized?

It was my sad lot during the past year, to be obliged to stand by, and witness the life-blood ebb away from a ruptured pregnant tube, because the family would not consent to an operation. Slowly and surely the lamp of life grew dim, until in eight hours from the time I was called to the patient, she had breathed her last.

In this case the diagnosis was absolute: Profound shock, dulness, gradually increasing in the left hypogastric region, the os uteri tilted forwards and high up, irregular menstruation, and the onset of the rupture, caused by a strain from lifting. Here a young life was lost, through what? The consent of the Church had been obtained (the patient was a Catholic)—through ignorance of the family and their friends, who preferred letting her die, rather than submit to a simple (comparatively so) operation which offered the only possible chance of recovery.

In this case, had the operation not saved the patient's life, of course the surgeon would not have been blamed, and no legal question would have arisen; but let us suppose a case where the symptoms are not so clearly defined. We are summoned in the night to see a woman suffering with intense pain in the left ovarian region. No tenderness can be found upon vaginal examination, the pain and tenderness are limited to the one spot over the ovary, no tumor can be felt.

Relief is obtained by the use of anodynes and counter-irritants, and in a day or two the patient is quite improved. A week or so passes and the doctor is summoned again. The pain is returned with all its vigor. The patient is once more relieved from pain, and continues so for two weeks, when she decides to visit New York City for a pleasure trip. While there the pain again returns and a specialist is called in, who diagnoses ovarian, or tubal disease, and proposes that she be removed to the hospital for the purpose of an exploratory operation, with the view of removing

the diseased parts if such be found. Thus far this case is actual, and occurred in the writer's practice. But she did no go to the hospital, neither did she have an exploratory incision made; but dismissing the specialist and returning to the family doctor of the friends in the city, and finally consulting two other physicians after her return home, she was finally cured by the last doctor, who rubbed on some smarting liniment, for the rheumatism which he said she had in the *end of the spine*, and which he said was the cause of her trouble. Now, laparotomy is not often advised for rheumatism in the end of the spine; but had she been operated on and recovered, all would have been well and good. But suppose (and here is the question of the paper) an exploratory laparotomy had been made and she did not recover, having succumbed, *e. g.*, from the shock of the operation, and the husband brings suit against the surgeon for damages, *what defensive argument can the doctor present in answer to the charges made against him?* This is what is meant by the title of this paper: "The Medico-legal Aspect of Exploratory Laparotomy." It seems to me that the answer as to the responsibility on the part of the surgeon resolves itself into the following: Laparotomy to-day is in skilful hands a recognized operation. There are certain conditions of disease or accident which can be reached only through abdominal section. The surgeon must be certain as far as possible from his diagnosis, that a given condition, or conditions warranting exploration exist. He ought to be accurately informed as to the correct method of reaching the parts through operative interference. He should know just when the operation ought to be performed in order to obtain the best, or safe results. Beyond this the responsibility lies with the patient, or the patient's friends. They should be informed of the danger of the disease as it exists unrelieved; they should be informed as to the gravity of the operation, and its risks, and they should be warned that in the event of unfavorable result, either through failure of the vital powers to stand the shock, or from a too great extent of diseased parts to permit successful manipulation; or even in the case of a possible mistaken diagnosis after sufficient consultation has been held, the doctor shall not be blamed.

Gentlemen, this is not too great precaution when undertaking such operations. We may be skilful operators; there may be money in the operation; it may bring us fame if we succeed—but the operation of opening the abdominal cavity and handling its contents is no child's play, it is a dangerous proceeding at its best, notwithstanding 135 successful consecutive operations; and a failure might bring the hands of the law heavily down upon the head of the would-be benefactor. But, bringing our best and cautious efforts to bear in a case where we are firm in our conviction that the only salvation lies in operative procedure, we should not hesitate to give the patient every advantage of the enlightenment which is ours, the outcome of skilful experience.

TWO CASES OF HYPERTROPHY OF THE ADENOID TISSUE OF THE BASE OF THE TONGUE, ONE OF THEM PRODUCING "SERIOUS SYMPTOMS."

Read in the Section of Laryngology and Otology at the Forty-first Annual Meeting of the American Medical Association, at Nashville, Tenn., May, 1890.

BY J. E. BOYLAN, M.D.,
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The pathological importance of the denser layer of lymphatic tissue which has been considered by various observers since Henle's time, and which Waldeyer has shown to exist, normally in an unbroken circle from the base of the tongue around the arcus glosso-palatinus to the tonsil of the fauces, from it to the tube lip and thence to the posterior upper pharyngeal wall on either side, was called into general notice some thirteen years ago by Meyer in his celebrated paper on "Adenoid Vegetations." Since Meyer's communication, repeated investigation of the structure and dimensions of this "lymphatic ring" by Lenschker, Waldeyer, Gerlach, Schwartz, Trautman and others, has demonstrated that besides at the fauces, principally in two well defined regions, is this tissue massed in a similar manner to that between the pillars. In the vault of the pharnyx it exists no longer as a denser layer, but as a circumscribed and systematically arranged mass, comprising almost the whole thickness of the structure and attached by loose connective tissue to the fibro-cartilage basilares, no muscular fibres existing behind it. (1). It is further characterized by a grouping of the follicular glands containing their closed follicles and deep seated asinus glands, the ducts of which open upon the free surface and are filled with the usual gray mucoid substance.

Next important in point of quantity to the pharyngeal tonsil is the similar aggregation of this tissue at the base of the tongue; here it exists in the form of a denser layer extending usually across the whole dorsum and though varying in its dimensions is present in sufficient quantities to have induced Waldeyer to look upon it as nothing less than a flattened tonsil which he designates "tonsilla lingues."

Gerlach, who has traced this tissue upon the tube lip, has seen fit to speak also of a tonsil of the tube, though the strata is here much less dense, and according to Trautmann,[1] rarely, if

[1] Trautmann's work on Adenoid Vegetations with report of 190 autopsies.

ever, hypertrophies. It is however, not the province of this report to raise the already widely discussed question whether the term "tonsil" may be correctly applied to these structures, or to enter into a consideration of their function; but to submit that the lymphatic tissue at the base of the tongue, has, in common with the lymphatic tissue of the other parts of this "ring," a marked tendency to hypertrophy; that owing to its location and the fact that consecutive disturbances occur here less readily, its enlargement is frequently overlooked and that it at times gives rise to serious symptoms. In this connection I wish to report the following two cases which have come under my observation in private and clinical practice during the past three years:

Case 1.—Mrs. M. called on July 26, 1888, to consult me regarding a long standing and very irritable sore throat and for advice as to the expediency of spending the summer in the mountains of Vermont, for which region she was to start in a few days. Patient was 40 years of age, anæmic, emaciated and in an extremely weak and nervous condition, and had been under treatment for malaria during the winter. She had cystic enlargement of the thyroid gland, quite soft and movable, which had attained the size of an average orange, which, however, gave her so little trouble that she considered its treatment a matter of minor importance that might be undertaken after she had obtained relief from the very annoying symptoms within the larynx; these she described as pain, irritability, huskiness of the voice, the sensation of a lump in the throat which interfered at times with her breathing and a frequent desire to swallow. Inspection disclosed ragged honey-combed tonsils. The mirror reflected the somewhat enlarged arytenoids and the posterior half of the vocal chords, upon the latter some tenacious secretion. But the feature which at once arrested the attention was the condition at the base of the tongue. The whole of the surface between the fauces was raised to a pale tumor-like mass which completely overshadowed the epiglottis, its very irregular surface consisted of closely crowed pale tit-like elevations or lobules, some of them apparently as large as the tip of the little finger, which at first sight had a succulent appearance, but which the probe proved to be rather dense and resisting; between these prominences the probe sank readily into several deep fissures with perfectly smooth and flattened walls, which closed over the instrument as it sank so that they could not be detected by the eye. Patient and her husband emphatically declined any operative interference not absolutely necessary until she should have regained her strength. Ordered iron, cod-liver oil and a stimulating inhalation to be used during the summer. Patient promised to call immediately upon her return. September 5th patient presented herself again, her general health much improved having gained in strength and weight. The tumefaction at the base of the tongue is, if anything, larger than when she went away, and the most serious complaint that she had to make during her absence was of an increased difficulty in breathing which became much worse at times when she lay on her back. Patient was obliged to go to New York on business for six weeks, but agreed to submit to an operation immediately upon her return. November 2nd patient and her husband called to state that during her sojourn in New York alarming dyspnœa had developed, so that she had to be propped up in bed at night, and that she had called in a well known surgeon of that city who saw in the enlargement of the thyroid the cause of the dyspnœa, and recommended ligation, alternately, of two of the thyroid arteries with as little delay as possible. The alarming symptoms, however, abated somewhat, and believing his wife not in condition to submit to so formidable an operation Mr. M. had brought her home to be treated according to some milder method. She was resting from her journey and would come to the office in a few days. A fortnight later I was called up at two o'clock in the morning to come in haste to the home of Mrs. M., who, the messenger said, was suffocating. I found her propped up in bed with slightly labored respiration, weak and much alarmed over an attack of dyspnœa which she was just recovering from. The enlargement of the thyroid was about in the same condition that it was four months previous, soft and not increased in size; but the change in the appearance of the swelling at the base of her tongue was striking. It was considerably larger and of a much brighter red—nothing could now be seen of the larynx but the posterior upper surface of the arytenoids and the epiglottis was so overshadowed that no part of it was visible. Free scarification with a laryngeal knife soon relieved all symptoms of dyspnœa and I left her promising to attack the swelling in a more radical way on the following day. Two applications of the galvano-cautery, which to my very nervous patient, were most formidable and painful operations, relieved her entirely and permanently of dyspnœa, though a serious attack of illness soon after confined her to her bed before the treatment was completed. I was fortunate enough to see her after a prolonged absence only last week, and though she could never bring herself to have the goitre energetically treated, she has remained quite free from all the symptoms in the larynx which had previously caused her so much distress.

Case 2.—Mr. H., musician, 22 years of age, has been annoyed of late by pain and irritation at a certain spot in his throat where he thinks a little piece of bone or bristle must have lodged which he can feel plainly when he swallows and

its presence causes him to swallow frequently. He has to cough a great deal and finds that his voice soon tires in conversation so that it becomes difficult for him to continue his instruction. Examination shows some indurated enlargement of the tonsils of the fauces—the larynx comparatively normal—at the base of the tongue there is hypertrophy of the adenoid tissue which increases in thickness as it reaches the median line, where there are eight or ten excessively developed nodules which overlap and lie upon the reddened and injected epiglottis. At the sides the epiglottis lies in close contact with this irregular surface of tissue and appears to be imbedded in it. Firm traction on the tongue discloses nothing of the sinus glosso-epiglotici, but the margin of the epiglottis can be seen to free itself from the overhanging tissue. After a liberal application of cocaine the bulk of the hypertrophy was removed with Hartman's pharyngeal curette in the reversed position very satisfactorily. At the second visit chromic acid was applied to the remaining excess of tissue, but by the act of deglutition, which the patient could not resist, the uvula and adjacent parts were brought into contact with the acid, and I have, therefore, not used it since. The treatment resulted in entire relief from all the symptoms.

As Swain (2), Curtis (3) and McBride (4) have pointed out, the symptoms of pain and irritation, the presence of a foreign body and impaired power of phonation which are almost invariably present in these cases, are probably produced either by direct mechanical interference with the movements of the epiglottis or by reflex irritating action upon the motor-laryngeal nerves. Though defective respiration may possibly also be due to the last mentioned cause, I am convinced that in Case 1 of this report, it was produced by direct infringement of the hypertrophied and inflamed tissue upon the region of the chink of the glottis. In both the cases there was enlargement of the tonsils of the fauces—in one granular pharyngitis. Observation for the past three years, wherever opportunity afforded, has convinced me that the condition of the tongue back of the circumvallate papillæ may vary from a perfectly flat surface, to one in which excess of tissue is quite apparent, and as Swain in his very excellent treatise on the structure of this tissue (2) has shown its enlargement to be a true hypertrophy, it will be frequently difficult to determine whether we have to deal with a normal or pathological condition. But as the excessive tissue is easily and quickly reduced the presence of annoying symptoms should be the indication for operative interference.

LITERATURE.

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SUGGESTION ON THE USE OF ELECTRICITY IN EAR DISEASES.

Read in the Section of Laryngology and Otology at the Forty first Annual Meeting of the American Medical Association, Nashville, Tenn., May, 1890.

BY E. L. JONES, M.D.,
OF FLORENCE, ALA.

When I received an invitation from your Secretary to prepare a paper for the Section of Laryngology and Otology, my first thought was to decline, on the ground that it would seem like presumption for me to appear in the rôle of instructor to those so much my seniors in authority and experience as the members of this learned body. The remarks which I shall make at least present the merit of originality, so far as my knowledge goes, and the frequent occurrence and incurable nature of the affections to which they pertain certainly demands our thoughtful consideration of anything that may benefit the vast multitude whose hearing is impaired or lost through these diseases.

My conclusions are based largely on the successful applications of these principles to analogous conditions elsewhere, and somewhat on the results of a limited personal experience. Just here I would distinctly state that I had intended to keep these thoughts and practices strictly to myself until it could be proven by the crucial test of long experience whatever of truth or error there might be in them; but when the opportunity of presenting them to this Section occurred, it seemed an appropriate time to give them to those in whose hands it shall be found "whether they be of good or evil report." I am aware that in aural as well as other fields of medicine many and unreasonable things have been expected of electricity, and in referring to the authorities at my command, in some I find it not mentioned at all, in others only to be condemned.

After this preface I would direct your attention to what I shall entitle "The Thorough and Systematic Application of the Continuous Current to the Proliferous or Chronic Non-suppurative Inflammation of the Middle Ear, and to Similar Conditions from Long Past Acute or Suppurative Inflammation."

Let us first look at the pathological conditions present, and see what are the results from established methods of treatment. As you all know, repeated post mortems have shown in such cases that the drum head is thickened and inelastic, the lining of the tympanum hypertrophied, the ossicula wholly or partially anchylosed, and the drum cavity filled with organized fibrinous exudation, completely binding everything together; and this same hypertrophy generally extends to the Eustachian tubes, causing more or less stricture and impairment of functions. And your experience will also confirm the statement of authors that the maximum results to be hoped

for is to stop the further progress of the disease, and that, in spite of the most persistent treatment, the distressing tinnitus and deafness often go on to melancholy seclusion or the ear-trumpet. Surely any procedure that will throw the bright light of hope on this gloomy picture should be gladly welcomed.

I will first direct your attention to the indisputably successful application of the continuous current to analogous conditions elsewhere, which first led me to the thoughts embodied in this paper. For many years it has been known and acknowledged by those who have studied the subject, that there is nowhere so powerful a sorbefacient and local circulation stimulant as the continuous current properly used. By this electrolytic action immediate chemical and molecular changes in the tissue acted upon are effected, and this action continues after the applications cease.

For instance, this plan of treatment has been long and successfully used for localized effusions and exudations, urethral stricture, nævi, hypertrophied tonsils, and tumors of many kinds in various localities, where reasons existed for abstaining from more radical surgical methods, and, mostly of all, a subject toward which the eyes of the whole medical world are directed—Apostoli's treatment of uterine fibroids. By this latter a revolution has been wrought in gynecological practice, and numberless cases are cured which heretofore had either to suffer in silence or undergo the great risk of a most dangerous hysterectomy. This treatment has now won for itself a recognition almost universal, and its opponents are found only amongst two classes: those who have not tried it at all, or those who have tried without an adherence to proper indications or correct methods of procedure, according to which standard the most firmly established truths will fall. This plan is also successfully employed in chronic uterine hyperplasia, where the uterus is heavy, large and infiltrated with fibrous material, a condition in the womb quite similar to proliferous catarrh in the ear, in that both are very common, very distressing, and very difficult of permanent relief by methods heretofore in vogue.

It will be seen that in these troubles the electricity is not used with reference to its action on the nerves, as in most of its other therapeutical applications, but purely for its electrolytic and sorbefacient effects.

Under the Apostoli treatment large tumors are made less in size, and the enlarged and heavy uteri are reduced in bulk and hardness, giving great relief to the patient.

In cases of subacute and chronic cellulitis with exudation, semi or wholly organized, it will also promote absorption, and, if used early enough, prevent the adhesions which make the sequelæ of this disease so distressing. In this will be seen the analogue of the fibrinous exudation found in the ear.

Before describing my method of procedure I would make a few remarks relative to the polar actions of the current. Of course it will be understood that these apply only to the galvanic or continuous current, the Faradic and magnetic having none of these properties.

Experiment shows that if two needles attached to the poles of a galvanic battery be stuck into a piece of flesh and a sufficient current turned on, a decomposition called "electrolytic" will take place around the needles; acids will be generated at the positive pole, and alkalies at the negative, phenomena entirely independent of vital action. In living tissue it is found that the negative is the more congestive of the two poles, causing increased redness and vascularity of the locality to which it is applied. It is this pole we bring in closest relation to the tissue desired to be absorbed. In making these applications to the ear I use for the external meatus an electrode consisting of an insulated rubber speculum with handle, through which speculum runs a conducting wire. This is attached to the negative pole, and the patient inclining the head from the ear to be treated, the meatus is filled with warm salt water and the speculum introduced.

If the Eustachian tube is easily pervious, the positive pole is attached to an ordinary sponge electrode and pressed under the angle of the jaw of the opposite side. If the tube is not freely open, the positive pole is attached to an electrode consisting of a hard rubber Eustachian catheter with a copper wire running through it. The catheter, with the wire drawn inside, is introduced in the usual way, and the wire being held firmly, the catheter is withdrawn about half an inch, leaving the wire in the tube. The current is now turned on until the burning feeling is as great as the patient can comfortably bear, and continued from five to ten minutes. The oftener the treatment can be given, the better, but I know of no exact limitations as to the intervals between applications.

On inspection the drum heads will be seen to be intensely red and congested along the malleus handle and at the periphery, which increased determination is necessary to absorption. The tubes soon become easily pervious, even attracting the notice of patients. In time the drum head and malleus are seen to become more movable, and improvement in hearing goes along *pari passu*. In conjunction with this the ordinary treatment of the throat and naso-pharynx, with inflations, etc., should be used.

In the limited number of cases in which I have applied this treatment it was only used after the regular orthodox methods had been tried long enough to show their inutility, and in all the improvement was most marked afterwards.

I have not yet had a sufficient number of cases to base much upon the result of experience. My

location is in a small town where material is not abundant, and I have not been using the method long; but if I shall succeed in directing the attention and work of the profession to what may prove a very valuable addition to our means of combating this deplorable condition, I shall feel that my efforts have not been in vain.

THE VALUE OF THE LEITER INCANDESCENT-LAMP URETHROSCOPE IN THE DIAGNOSIS AND TREATMENT OF CHRONIC URETHRAL DISCHARGES.

Read in the Section of Surgery and Anatomy at the Forty-first Annual Meeting of the American Medical Association at Nashville, Tenn., May 20, 1890.

BY JOHN B. DEAVER, M.D.,

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Having used the Leiter incandescent-lamp urethroscope for some time with most gratifying results, both in the diagnosis and the treatment of chronic urethal discharges, I have felt that it would be of interest to present my views upon the advantages offered by this instrument, at the same time illustrating my remarks by the citation of a few of the many cases I have recorded in my case-book.

The Leiter incandescent-lamp urethroscope (made by Leiter, of Vienna), consists of three pieces: the handle, the lantern, and the urethral canulæ, or tubes. The handle is made of vulcanized rubber and has upon its upper end a small incandescent lamp, which is connected with the two binding screws projecting from its lower end.

The light steel spring on the side is the key by which the current is connected and broken. The handle fits into the bottom of the lantern.

The lantern is a gutter-shaped box, roofless, having at one end, which I will call the ocular end, an obliquely placed concave lamp for the purpose of reflecting the light of the lamp along the urethral canula, or tube, also a movable lens intended for either long or short-sighted observers. At the other end (the distal) is a nozzle for fitting on the tubes. In addition to this is also noticed small perforations in the floor of the lantern immediately around the lamp, which are intended to carry off the heat. The urethral tubes are of different sizes, intended, of course, to be used in different size urethræ. The larger the tube used the more satisfactory will be the examination, and, if necessary, I do not hesitate to enlarge the meatus, which in most cases we find contracted, this, in some instances, relieving the patient of the trouble of which we are trying to learn the nature by the urethroscopic examination. The nearer the size of the tube approaches the normal calibre of the urethra, the

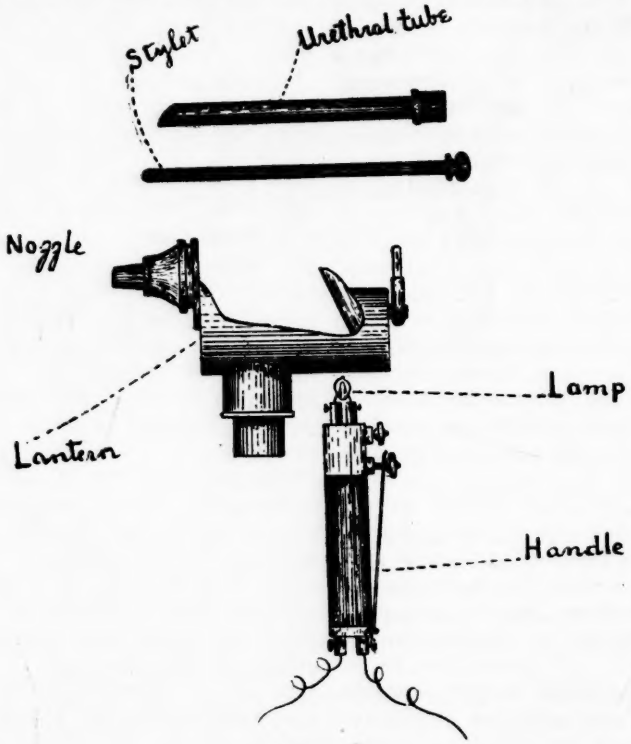

FIGURE 1.

less likely are we to overlook a fold which may be the seat of a small patch of disease. The mirror is to be so adjusted as to reflect the light along the tube.

The construction of this instrument is so simple that it very seldom gets out of order. The most delicate part is the lamp, which after being used some time requires changing, as it is apt to become blackened. This is done by simply removing the handle and loosening the two small screws holding the lamp in place, when the lamp is lifted out and replaced by another, care being taken to secure it by tightening the screws. The handle is then replaced and fixed. In adjusting the lamp care must be taken to have it at a proper level, otherwise there will be insufficient illumination. To avoid all annoyance it is best when inserting the handle into the lantern to light the lamp and test the amount of illumination by placing the end of the urethral tube, adjusted to the nozzle, against a dark surface, when by elevating or depressing the handle the proper level can be obtained.

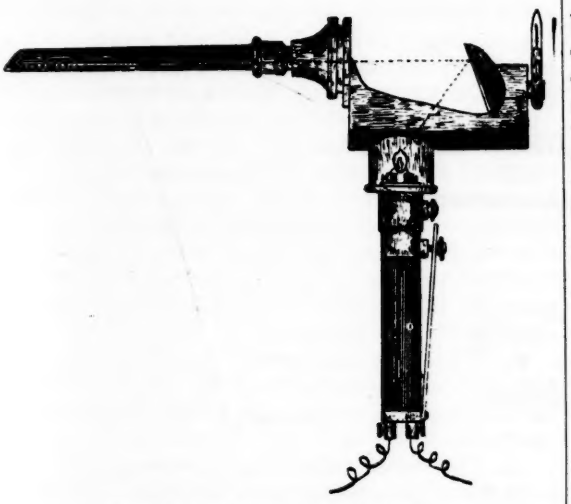

FIGURE 2.—Urethroscope ready for use.

The two forms of battery used by me in lighting the urethroscope, are the Julian storage system and the Grenet or plunge battery.

The Grenet or plunge battery, which I prefer, is made by Mr. Flemming, of Philadelphia, and consists of a box containing two equal compartments, the first of which is occupied by a series of rubber cells, one-half filled with the following solution: potassium bichromate, 6 ounces; sulphuric acid, 5 fluid ounces; water, 3 pints. This solution must be removed every two or four weeks, according to usage. The second compartment contains one large cell, the object of which is to catch the drip from the plates after their removal from the bichromate bath, and also to protect them.

These two compartments are covered by a bed, the under surface of which is divided into two equal parts, one-half being covered by a sheet of rubber, to close the cells when not in use, and the other half occupied by a number of sets of plates. Each set is composed of two carbons and one zinc-plate, which are fastened to the bed in the usual manner, and so connected as to have independent action, the number of cells being thrown into circuit as required. After using the battery and wishing to discontinue the current, it is merely necessary to lift out the plates, change sides and deposit them in the one large compartment.

Upon the upper surface of the bed are a number of binding posts corresponding to the number of cells employed, and by attaching the cords in a proper manner the number of cells desired can be brought into circuit. On this surface there is also a rheostat consisting of a rubber plate wrapped with silver wire, connected with the cells and having a swinging arm which can be moved to any part ot the plate; the object of the rheostat I will speak of later.

The other form of battery used by me is made by Waite & Bartlett, of New York, and consists of a carrier or box, containing four large storage-cells, each of which is composed of a rubber cup, a series of carbon and lead plates not in contact with each other, and containing a dilute solution of sulphuric acid which must be replenished from time to time. The materials used to connect these cells are narrow plates of lead, which are not acted upon by the sulphuric acid solution. These cells each measure two volts, and on increasing the voltage it is necessary to use a rheostat for reasons mentioned below.

There are two objections to the general use of the storage system. First, it must be charged from a dynamo, and second, its weight (from 90 to 100 pounds,) renders it inconvenient to carry.

The object in using a rheostat is to govern the current, to prevent burning out of the lamp, and to measure the exact resistance of the lamp. It is a well known fact that the carbons vary greatly in different lamps. In some the resistance is high, and such only burn when the rheostat is at its minimum; in others the resistance is so low that the lamps will not burn with a white light except when the rheostat is at its maximum.

Manner of using the instrument.—In using the instrument the position of the patient which I have found most satisfactory is the recumbent one, on a table or couch of considerable height, with the knees bent over the edges and slightly separated. The largest tube which the meatus will admit is now introduced, and passed gently through the urethra to the bulbo-membranous junction, unless obstruction is met with, when the stylet is withdrawn, the urethroscope ad-

justed, and the obstructing point examined. Great care is to be exercised in passing the tube, as it may induce bleeding, thus obstructing the field of vision. Where we are dealing with a much inflamed urethra, we will necessarily be annoyed more or less by a few drops of blood, and when this occurs it can be gently removed by a pledget of cotton carried down the tube by the applicator. In case the pendulous urethra is found normal I carry the tube into the membraneous urethra by depressing the proximal end, and in this way examine the deep urethra.

Normal appearance of the urethra.—When at rest the walls of the urethra are closely approximated and the lumen varies in shape at different parts of the canal.

Commencing at the bulb and extending to within an inch of the meatus, the lumen is transverse or slightly oval; in the remaining portion it is either vertical or triangular, and at the meatus, vertical. The color of the mucous membrane varies from a pale bluish pink to a full, bright pink; generally it is very similar to the buccal and labial mucous membrane in the same individual. The brilliancy resembles that of the mouth. On slowly withdrawing the urethroscopic tube, the walls of the urethra will be seen to contract behind it. One of the most important characteristics of the healthiness of the spongy urethra is the evenness with which its walls will contract behind the retiring tube, or expand when it is advanced. A limited thickening in a small area will cause them to approximate irregularly. A scanty secretion of pus will destroy the lustre of the mucous membrane.

The lumen of the membranous urethra at the sight of the anterior layer of the triangular ligament, is triangular, which is due to the walls being less elastic than in the spongy portion; elsewhere it is oval. Owing to the presence of the urethral crest (*veru montanum*), the lumen of the prostatic urethra is crescent shaped.

All discharges, chronic in character, of the male urethra have been from time immemorial, and still are, known by the name gleet. The opinions advanced as to the pathological conditions present in gleet in the absence of a well marked stricture have been various, and not till recently has the proper aspect been given to these cases. The proper understanding of these conditions is solely due to the use of the urethroscope, which has been so perfected as to make the examination of the urethra, particularly the pendulous and terminal portions of the prostatic, as satisfactory, and in every sense as reliable, as is the examination of the eye-ground with the opthalmoscope.

I believe, as does Professor Otis, that in the great majority of cases of gleet, one, and in some instances, more than one stricture is present, which, when situated in the pendulous urethra, the usual site, can be most satisfactorily demonstrated by the urethral meter, and that the removal of the stricture by dilating internal urethotomy will cure the greater number of such cases. I also believe that the minority of the cases are not the result of stricture, and can be correctly diagnosed, and thereby successfully treated, by the use of the urethroscope. It has been my experience to see a few cases, where, after a complete dilating internal urethrotomy, the discharge continued, though not to as marked a degree as before the operation, and where cure has promptly followed a few applications made to the affected portion of the urethra through the urethroscopic tube; also in cases where internal urethrotomy is practiced I am able to hasten the cure by local applications.

What are the varieties of gleet (meaning any chronic urethral discharge) met with and clearly demonstrated by those who practice urethroscopy?

In my experience with the use of this instrument I have been able to demonstrate the following varities of chronic urethritis:

1. Simple chronic urethritis consisting of three different forms; one where the surface of the urethra is uniformly livid and moist; a second where, in addition to the above, are circumscribed areas involving the deeper portion of the urethra (the sub mucosa), resulting in the formation of nodular masses, slight, yet easily demonstrated by the absence of the normal elasticity of the urethra; and a third, where there are circumscribed areas presenting a granular surface, covered, in many instances, with adherent pus readily bleeding at the slightest touch, and most probably that variety of urethretis described by some authors as granular.

2. Follicular urethretis where the inflamatory process is confined to the simple follicles, lacuna magna, in some cases to the ducts of Cowper's glands.

3. Ulcerative urethritis, never present except when associated with stricture, the treatment of which calls for division of the stricture (dilating internal urethrotomy), and local applications made to the ulcer or ulcers made through the urethroscopic tube.

It is not uncommon to meet with two or more of the above conditions in the same case.

In the absence of the urethroscope, to ascertain the exact pathological condition which is keeping up the discharge in a large number of these cases, at least, is impossible. I have made the statement that, in my judgment, by far the greater number of such cases, are the result of stricture; but even so, a urethroscopic examination properly made tells us the exact condition of the urethra, both behind and at the strictured portion. The cases which I will now cite demonstrate the advantage of the instrument in the way of treatment.

Case 1.—J. D., aged thirty-eight, was admitted to the surgical wards of the Philadelphia Hospital, in February, 1890, complaining of a purulent discharge from the urethra, with pain upon micturition. History of gonorrhœa for four years, followed by stricture. Was operated on in the winter of 1889, at Bellevue Hospital, by Dr. Keyes. Urethroscopic examination revealed a small ulcer, one eighth of an inch in diameter on the floor of the pendulous urethra immediately in advance of the bulbo-membranous junction. A solution of silver nitrate, 10 grains to one ounce, was applied through the urethroscopic tube by means of the applicator. Two more applications at intervals of three days, were made, when the ulcer was entirely healed, resulting in the relief of all symptoms. The patient was kept under observation for one month, when he was discharged cured. This ulcer was evidently the result of the stricture, but, unlike it, was not cured by the internal urethrotomy, which, I believe, would often be found to be the case were a careful urethroscopic examination made in many of these cases where the discharge is still present.

Case 2.—C. D.; private patient; came under my care some months since, with a history of gleet of two years' standing. During this time, he says, he had several attacks of gonorrhœa immediately following connection; these were evidently not attacks of true gonorrhœa, but simply aggravations of the existing urethritis, the result of the venereal act. Examination of the deep urethra with a *bougie-la-boule*, and of the pendulous urethra with the urethræ meter, revealed the absence of stricture. This examination was followed by some bleeding. Urethroscopic examination revealed chronic urethritis, with three distinct granular points on the floor of the pendulous urethra, 2½ inches anterior to the bulbo-membranous junction. The granular patch nearest the meatus bled freely when touched.

Four applications of a 20-grain solution of silver nitrate was made at intervals of five days. In addition to the application of silver solution, the patient used the following injection four times daily: sulphur-carbolate of zinc, 12 grains; sulphate of morphine, 4 grains; distilled water, 4 ounces. At the end of three weeks, all symptoms having subsided, treatment was suspended. The patient reported two weeks later, when a urethroscopic examination showed the urethra to be normal.

Case 3.—W. H.; private patient; came to me suffering from a chronic urethral discharge of four years standing, as a result of a very severe case of gonorrhœa. Three years ago he was examined by a genito-urinary specialist, who found a stricture of large calibre in the pendulous urethra. This specialist cut the stricture by dilating internal urethrotomy, since which time the patient has been passing, at stated intervals, a No. 36 (French scale) bougie. During the past three years, the patient states, he has had several attacks of gonorrhœa of a mild type, but these were evidently attacks of so-called bastard gonorrhœa. Examination for stricture showed the urethra to be normal throughout. Urethroscopic examination of pendulous urethra was negative, except at the point which had been the seat of the stricture; here there was an absence of the normal elasticity, particularly well marked on the floor, but otherwise normal. Examination of the membranous urethra showed mucous membrane or the anterior part of the floor to be dark red and presenting a distinctly granular area, bleeding upon the slightest touch. In the light of this examination, I made instillations, of five minutes each, of a 20-grain solution of silver nitrate, six in all, into the deep urethra with the Ultzman drop-catheter, at intervals of three days. This treatment not proving satisfactory I brought into the field of vision the granular area, and made two applications through the urethroscopic tube, this sufficing to accomplish the desired end. Some weeks since the patient wrote me that he was well.

Case 4.—G. G.; private patient; contracted his first attack of gonorrhœa in 1883. It ran through the three stages, and had all the characteristic symptoms of genuine acute urethritis. The treatment consisted of balsam of copaiba internally and various injections; it lasted four months. In 1884 he contracted a second attack, which did not differ from the first, excepting that it lasted six months. In 1886 he contracted a third attack, which was by no means as pronounced as either of the previous. He had merely a discharge which differed from that of the attacks in being thinner and whiter. The treatment was internal only, and consisted of paste of balsam of copaiba and of cubebs, for two weeks. He did not have connection nor did he drink any spirituous liquors for one month after the discharge stopped; when having transgressed from the path of virtue, upon the day following he had a return of the discharge. There was neither pain nor discomfort other than that occasioned by the presence of the discharge. He was again treated by balsam of copaiba internally and by injections, but not improving as rapidly as his medical attendant thought he should, the systematic passage of steel bougies in connection with the above treatment was begun. The medication was continued until the patient's stomach would no longer tolerate the balsam, when it was omitted, the bougieing and injections being persisted in. Three months from the institution of the treatment the patient remaining abstemious, there was still enough discharge to make him despair as well as seek other advice.

In July, 1888, I was consulted, and examination then showed a slight gleety discharge. Calibre of urethra 36 millimetres. Stricture 3½ inches within the meatus, calibre 34 millimetres. At this time not having a urethroscope with which to make an examination of the urethra, I believe the discharge was caused by the stricture of large calibre present. I advised the passage of solid bougies and injection brou (French formula), hoping in this way to restore the normal condition of the urethra. This treatment was used faithfully for five months. In December, there being no longer any discharge, I stopped passing bougies and discontinued the injection, which had been changed from injection brou, several different formulæ, having been used. I advised that a No. 35 solid bougie be procured and passed once a week for some time.

In August, 1889, I was again consulted for an epididymitis of left testicle, following the passage of the bougie. This attack of epididymitis confined the patient to the house for one week, when the discharge again returned. As soon as the epididymitis had cleared up I examined the urethra with urethral meter, finding it trespassed upon to a little less than one millimetre at site of original stricture. Examination of urine showed presence of a few pus corpuscles and some shreds of mucous. Examination of prostate through rectum was negative. Believing the cause of the trouble to be chronic inflammation of the deep urethra, I used instillations of solution of silver nitrate, varying in strength from 10 to 20 grains to the ounce, using the Gross instrument. In a very short time the discharge disappeared only to reappear after taking a glass or two of beer. In the fall of 1889, a urethroscopic examination showed the cause of the trouble to be chronic urethritis with granular areas in the membranous urethra. Treatment like that I have detailed proved in a short time entirely satisfactory.

The citation of these four cases, I think, is sufficient to support what I have intended to convey by the title of this paper.

In addition to the value of this instrument in the diagnosis and treatment of chronic urethral discharges, I desire to call attention to what, by its its use, I believe I have demonstrated to be a cause of failure in obtaining a cure in a certain number of cases of stricture operated upon by divulsion, and which I think is an argument in favor of dilating internal urethrotomy (the operation I strongly advocate where it is feasible), and cannot result from the cutting operation, if properly done. I refer to tabs or teats of mucous membrane which have been separated at the time of the divulsion; and by bougieing, the union of these tabs to the surface from which they were torn has been prevented. In two cases coming under my care recently I have found the following conditions as here shown in the diagrams:

This condition, in my judgment, granting that all of the strictured area has been removed, is quite sufficient to keep up a discharge.

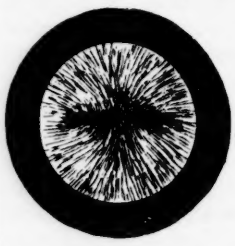

FIG. 3.—Normal Urethra.

FIG. 4.—Teat-like prominence of urethral mucous membrane.

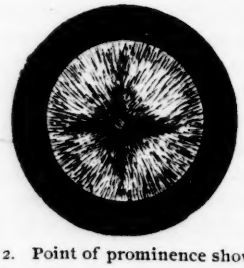

FIG. 5.—Same as 2. Point of prominence showing in the centre.

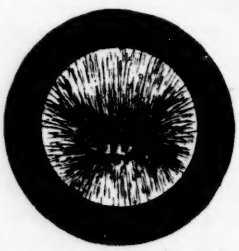

FIG. 6.—Multiple projections of mucous membrane into the urethra.

FIG. 7.—Multiple small projections into the urethra. Same as Fig. 6. Tube partly withdrawn.

The routine treatment of cases of chronic urethral discharge is by injection, soluble bougies, the systematic passage of solid bougies, and internally by the administration of stimulating blenorrhagics, until the patient's stomach will no longer tolerate them, and with, in many case, little or no effect. It is evident to all that this form of treatment will no doubt modify the condition and will cure a few cases. The advantage offered by the treatment advocated in this paper is, that we are with certainty abie to deal with the diseased point or points, it being necessary in only a few to trespass upon the prostatic urethra proper, which is always done in the ordinary routine practice of introducing the bougie into the bladder, thereby exposing the prostate gland to injury, as well as endangering the patient to an attack of epididymitis.

THE general meeting of the German-speaking Cremation societies is to be held this year at Frankfort-on-the-Main, on the 27th inst.

SOME POINTS ON TRACHEOTOMY.[1]

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Imperative tracheotomy for foreign bodies or for rescue from impending death from disease, has ever been the dread of the practitioner, hence when Dr. O'Dwyer invented an apparatus for tubing the larynx, supplanting the operation in many cases, his suggestion was received with enthusiasm, and deservedly so; still there are conditions in which the trachea must be opened. For foreign bodies it is the only relief, and in cases of extreme emergency from disease, where the patient may die before the mechanical appliance can be procured. This dread of tracheotomy has arisen from the fact that most authors have invested the operation with great dangers, surrounded it with serious complications, such as unavoidable hæmorrhage, wound of the great vessels at the base of the neck, injury to the adjacent cervical arteries and veins, strangulation during the process, bleeding from the wounded isthmus of the thyroid, wounding the œsophagus by transfixing it and the trachea with a mistaken plunge of the knife, "working in the dark," finding the vertebral column instead of the tracheal tube! It is hard to conceive that such accidents have attended the operation, nevertheless, the student will find frequent reference to such mishaps, and he is warned by authors against them.

Doubtless these complications may occur in efforts to open the trachea below the isthmus. An inexperienced operator follows the advice of the author which he is in the habit of consulting; he encounters a hypertrophied isthmus, to get below which he finds himself at the base of the neck, where the great vessels often cross; a fatal hæmorrhage may occur even from a careful use of the knife. The isthmus may not be enlarged, but an anomalous position of the arteries or veins, or their branches, may be encountered; they are in danger of being wounded.

IS IT A DANGEROUS OPERATION?

The earlier writers and many of the more recent speak of the operation as one of the most hazardous, why? With ordinary anatomical knowledge and average skill it may be made a perfectly safe proceeding, and with scarcely the loss of a spoonful of blood, if the proper location is selected, and after the skin is divided, a blunt instrument takes the place of the knife.

Velpeau, "Operative Surgery," in discussing tracheotomy and the dangers which sometimes attend it, says: "If during the operation venous hæmorrhage should be too abundant and resist the ordinary means, we should not get alarmed and in our fright abandon the patient, as Ferand did in a similar case." He was speaking of a hæmorrhage which occurred whilst he was attempting to insert a canula.

Trousseau speaks of the dangers of a too "nimble tracheotomy," referring to a careless mode, but when he says, "if the isthmus of the thyroid body presents itself under your bistoury, never hesitate to divide it in the mesial line." This advice, followed in some cases, would lead to results as disastrous as the most "nimble tracheotomy." The treatment of the isthmus, as will be seen farther on, is one of the most important considerations in connection with reaching the trachea. In a case which I saw some years ago with Drs. T. N. Wise and R. Pretlow, of Covington, Ky., the isthmus was so hypertrophied and fixed in its position that we were compelled to ligate on both sides before venturing to divide it; we then had a dry way to the trachea.

Holmes says, "tracheotomy is the most dangerous of all operations for the relief of children."

Gross' remark on tracheotomy, in which he affirms, that, "I know hardly an operation in all surgery that I would not rather undertake than this," has, doubtless, unnerved the arm of many an inexperienced practitioner.

Bryant writes, "tracheotomy is by no means a simple operation." He advises deliberation and refers to cases in which, from the embarrassment of the operaror, the innominate and carotid were injured, the œsophagus opened through the trachea; and he has seen both the trachea and œsophagus transfixed and the knife sunk into the vertebral column! Accidents, such as the latter, wounding the œsophagus and vertebra, may attend the use of a broad-bellied knife—the rings being dense, resist division; when they yield, if the operator should not control himself, by mere force or weight the instrument is carried through both walls of the trachea and œsophagus and into the vertebra. The injury to the vessels may occur from, as we shall see, making "the low operation."

Holmes in his surgery, "Principles and Practice," under the term "bronchotomy" describes opening the windpipe in three different places, "between the cricoid and thyroid cartilages, above the thyroid isthmus and below it." In attempting the latter, *i. e.* below the isthmus, he frankly admits that, "I once lost a patient from wound of a branch close to the innominate vein." Many surgeons at the present do not attempt this operation, especially when it is so easy to dispose of the isthmus and thereby prevent the hæmorrhage which may follow its division. In speaking of hæmorrhage passing into the windpipe after the incision, one author advises that "the patient be instantly turned on his face and it will run out again." Usually the blood which

[1] Journal of the Medical College of Ohio.

enters the trachea when an artificial opening is made, is promptly expelled and with great force, coughing, in fact, is rather beneficial; both in cases where the operation is made for disease or for a foreign body, the expulsive efforts are what are required, the more bronchial irritation the better.

Stephen Smith in his work on "Operative Surgery, says, "tracheotomy may be performed above, through or below the thyroid isthmus, the latter place gives more room for the canula and is to be preferred."

Agnew advocates a high incision, beginning with the second ring, and that where the isthmus obstructs the way it must be secured on each side, and the trachea divided between the ligatures.

Frank Hamilton describes a high and a low operation, but prefers the former.

Christopher Heath, like the last author, describes two operations, one above the other below the isthmus.

Victor Horsley, "Manual of Surgery," suggests, that if the isthmus be in the way, it be drawn downward with a blunt hook, a proceeding, by the way, not always possible.

Arthur E. Durham, in Holmes' System of Surgery, while favoring the operation below the isthmus, attributes these fatal accidents to "gross carelessness or utter loss of presence of mind." . . . "But in the next sentence he admits that the innominate may cross the trachea higher than in the normal arrangement."

Ashhurst, "Principles and Practice of Surgery," prefers the lower operation, and advises that the isthmus be divided and ligated, yet he says "the chief danger from tracheotomy is from hæmorrhage," and refers to cases "in which the carotid or even the innominate artery has been wounded." Could such accidents have occurred if the operator had confined himself to the upper and middle portion of the trachea?

Erichsen, "Science and Art of Surgery," speaking of the anterior jugular veins, says, "a branch often crosses the line of the tracheotomy wound." He also says, "the carotid arteries are also in close relation to the trachea on each side, being especially in danger at the lower part of the neck. Opposite the episternal notch the windpipe is crossed by the left innominate vein. . . . It will be seen also that the trachea is less covered and may consequently be much more readily reached above than below the isthmus of the thyroid gland." A wise precaution is contained in this last sentence.

It will be seen that no uniformity exists with the surgical authors who have written upon this important operation, an operation which every practitioner, in emergency, may be called upon to perform, there being no surgeon within reach. I feel safe in affirming that it is really one of the safest, simplest and most easily performed of all the great surgical operations. It is not strange that the inexperienced hesitate when they read of the dangers, of the many fatal accidents which are described by the masters as having occurred. The safety and simplicity of tracheotomy depends on the location selected and the manner of reaching the trachea. The low operation, that is the operation below the isthmus, should not be attempted for two reasons. (1.) The trachea at its lower portion (it takes an oblique direction from above downward and backward) is deep seated, often being two inches from the surface, even in children. (2.) The proximity of the large vessels which cross the trachea at the base of the neck.

WHAT IS THE BEST LOCATION?

Most surgical authors, as we see, speak of and give directions for two operations, one above, the other below the isthmus of the thyroid, when practically there should be but one, or at least but one should be attempted, and that is in the upper and middle portion of the trachea. Bryant has well said, "the nearer the tracheal opening is to the cricoid ring the better." Why talk about operating below the isthmus when a moment's reflection will show that the work will have to made in the neighborhood of important vessels, a wound of which would be disastrous. In the history of tracheotomy wrecks are numerin this region, the study of these, "like a meditation upon death," has deterred many. The reader, contemplating the procedure, is warned to be careful not to wound the carotid, the innominate artery or veins. What a blood-curdling thought that of wounding the carotid! Is it any wonder that even the possibility of such an accident should destroy the average appetite for throat surgery, and induce the attendant to trust his patient to a higher power? What are the facts? The carotid and accompanying jugulars are upon lines outside, and the great vessels which cross the trachea are safely below the upper and middle portion of the tube, where alone the operation should be attempted.

Erichsen speaks with great care and warns against wounding the carotid. He refers to one case in which a branch of the innominate was wounded.

An author, *Medico-Chir. Trans.*, 1882–1883, mentions mediastinal emphysema as following a tracheotomy. Holmes reports a case where the vertebral column was struck, but the trachea escaped.

THE THYROID ISTHMUS.

The significance of this structure in connection with tracheotomy should not, as we have suggested, be underestimated. In some instances it is so frail, a mere film, that it may be ignored, again it presents itself as a vascular, immovable

band, while in a minority of cases it is found hypertrophied, very vascular and fixed in its place. Mr. Bryant certainly does not give it sufficient importance when he says, "I have gone through the isthmus of the thyroid and have never had cause to regret it, nay, I am almost tempted to believe that the damages of its division are really theoretical and practically may be disregarded." This may be true when the isthmus is a mere film, or when it is movable, but when it is flush with distended vessels, the inexperienced who cuts it will be fearfully embarrassed. With all due deference to our eminent English author I venture to say, that such advice is dangerous, and that when the operator's knife enters a hypertrophied isthmus and the blood gushes forth the "flesh quake" which may seize him will not be soon forgotten. Is the isthmus of the thyroid gland an element of constant danger? This question has been answered negatively. If it be hypertrophied it can be ligated on either side and divided, if of ordinary size it can be pushed up or down, out of the way of the knife, or if it be a mere film, as it is usually found in children under 5 or 6 years of age, it may be disregarded.

HOW TO OPERATE.

Tracheotomy for disease or for the extraction of a foreign body should be governed by the same rules and principles. A young physician takes up a work to study the anatomy of the trachea; he is gratified to find so few blood-vessels between the skin and that tube, but in the first operation which he attempts, he will be greatly astonished at the hæmorrhage which follows his knife, as he makes incision after incision from the skin to the tube. If the operation be made for croup, diphtheria or inflammatory obstruction of the larynx, or frequently for a foreign body, he will find the superficial vessels enlarged and engorged; as they are divided, the hæmorrhage is so profuse as to be fearfully embarrassing. Can this hæmorrhage be avoided? To a very considerable extent it can. If the skin be transfixed instead of cut from without inward, and a blunt instrument used to move the connective tissue, in which the engorged vessels are found, out of the way, but little hæmorrhage will follow. In this manner Mott exposed the arteries in his great operations for the relief of aneurisms.

HOW TO REACH THE TRACHEA WITH SLIGHT LOSS OF BLOOD.

This is the important question. Take up a fold of the skin, let an assistant hold one side, then with a sharp-pointed knife, curved the better, transfix this skin from below upwards. If possible, make this first incision sufficiently long; it should extend from the episternal notch to and above the cricoid. A liberal incision through the skin gives great ease in reaching the trachea. This first incision carries the operator into the cellular tissue, and this connective structure may, with a steel director or a blunt instrument, be literally scratched out of the way, until the median muscular division is in view. With the same use of the blunt instrument the muscles may be separated and the rings of the trachea exposed, after disposing of the isthmus, if it be more than a mere film, by pushing it up or down. If, however, it be enlarged or vascular, its treatment has already been indicated. In this "dry dissection," as called by Mott and Hamilton, the fascia is occasionally so unyielding that it may be necessary to incise or nip it slightly, but very slightly. Up to this point a very small amount of blood has been lost. Now, by the continued use of the blunt instrument, the trachea may be exposed fully and freely, so that an opening can be made in it from five-eighths to one inch or even more. With a liberal incision in the skin and a free use of the director the operator will never be embarrassed by "working in a well," as some writer describes it. It should not be forgotten that here, plenty of room is a *sine qua non*.

How to open the trachea? It is not necessary to hold it with a pair of forceps, as suggested by one author, or transfix it with a sharp hook, or seize it between the thumb and finger, but insert the same sharp-pointed, curved bistoury with which the incision through the skin was made, between two of the lower rings and cut upward. The knife steadies the tube sufficiently and the incision can be made while the forceps or hook are being adjusted. It is by using a broad-bellied knife that operators, as heretofore said, in using force, have transfixed the posterior tracheal wall and have passed through the œsophagus into the vertebra. Hardly excusable.

HOW IS THE OPENING TO BE KEPT PATULOUS?

Often a vital question, in diphtheria, croup, œdematous laryngitis and occasionally where foreign bodies are not promptly expelled, it is necessary to keep the opening free. For disease a number of tubes have been invented, and from the fact that all have proved unsatisfactory, many surgeons have suggested modifications or invented new ones. Some years ago an American surgeon, Dr. Brainard, of Chicago, proposed putting a ligature in the trachea on each side of the incision and fastening the ends at the back of the neck. In this way the opening can be kept free and this expedient is in most cases vastly superior to the tube. For an emergency, such as an operator recently encountered, ("Tracheotomy Under Difficulties," H. Harvey Norton, L.R.C.P., M.R.C.S., *British Medical Journal*, May, 1890), Dr. Brainard's plan would have been of great advantage. His patient, "a fishmonger, æt. 30," was approaching collapse, produced by

acute laryngitis, "lips and extremities blue, pupils dilated, conjunctiva insensitive, breathing stridulous, ribs drawn in during inspiration, pulse scarcely perceptible, in fact at the point of death. There was evidently nothing for it but tracheotomy." . . . "But as the man was every moment becoming worse I found I could not wait for the arrival of the tube and was at my wits' end for a substitute, till having examined all the available pipe stems and found nothing suitable I suddenly thought of a quill toothpick." He had to hold it "in position for an hour." This answered until the arrival of a tube which he inserted.

FOR FOREIGN BODIES.

Occasionally a foreign body, such as a grain of corn, becomes so lodged in one of the bronchial tubes that the most violent paroxysms of coughing fail to dislodge it, nor can it be reached by forceps? Under such circumstances what is to be done? How can the way be kept open? The two cases which follow will answer the question.

Case 1.—A grain of corn coughed up after the tracheal opening had been kept patulous for forty-eight hours.

During the last few weeks a child, about 2 years old, was brought to my office, said to have "a grain of corn in its windpipe." It was not suffering, but the father described its paroxysms of coughing during the past night as fearful, that he "could hear the grain of corn passing up and down." The child had had a severe spell of coughing that morning before leaving home, some twenty miles distant; since which he seemed better. The father indulged the hope that the offending substance "had been coughed up and swallowed." This was on Saturday morning; the child was not brought in again until Monday, when the father described the suffering during the forty-eight hours' absence as "very great at times." We inverted the child, attempting in this way to provoke coughing, we evoked one fairly hard spell during which the father was sure he heard some substance passing up and down, I was inclined to agree with him, but as he held the child in his arms my opportunity was not so good as his. I advised the opening of the trachea. This was done without the loss of two teaspoonfuls of blood. A violent fit of coughing occurred, but no appearance of the foreign body. I probed the larynx and the trachea to the bifurcation and the bronchial tubes beyond. The larynx was irritated for its reflex influence in inducing coughing; I was sure the offending substance was not in it, for the little boy's voice was unaffected, this eliminated the larynx. If present, the grain of corn must be below in one of the bronchial tubes, the probe, however, failed to determine its situation. A ligature was passed through each side of the incision and tied behind the neck, the way was thus kept open and the trachea irritated down to the bifurcation, occasionally during the twenty-four hours following, without effect. Another twenty-four hours elapsed, making forty-eight since the operation. The tracheal cavity was again irritated with the probe. After stretching the incision wide open by pulling at the two ligatures, several attacks of violent coughing occurred, when, at last, as I had about decided to keep the way open, if necessary, for another day, a spasmodic expulsive effort threw the grain out with great force; it was picked up from the floor! It had been in the air passage for nine days, and the trachea kept open for *the latter forty-eight hours!*

Case 2.—Trachea kept open for five days.

A few years ago I visited a boy in consultation with Dr. Barbour, of Falmouth, Ky. The patient was about 6 years old, and was said to have "half of a glass button in his windpipe." When I visited his father's house, he was seemingly comfortable, no cough or dyspnœa, but his parents described his suffering as very great whenever the foreign body would become dislodged; these paroxysms would occur several times in twenty-four hours, and were of a most alarming character. After a considerable effort (he was a boy not disposed to be imposed upon, he emphatically refused to be handled) I inverted him and, with his head down, I shook him over the room several times but could not dislodge the fixed glass button. After again having his sufferings rehearsed, I advised opening the trachea and keeping it open for an indefinite time, for a month, if necessary. I felt confident that his first violent fit of coughing would relieve him. On account of the weight of the glass his nurse was advised to place him on his abdomen when coughing, so as to get the advantage of gravity. On the fifth day it dropped upon the floor during an expulsive effort.

These cases emphasize, 1, the value of Brainard's suggestion. 2. The propriety of keeping the trachea open for an indefinite period.

The trachea, after being opened and kept open, as is often done where tracheotomy is resorted to for disease or obstruction, heals very readily; its ability for repair is remarkable.

The ligatures will often prove most satisfactory after the trachea is opened for diphtheria or croup. In many cases Dr. O'Dwyer's tube answers well, but in others tracheotomy will have to be resorted to. This distinguished surgeon by his invention has made both humanity and the profession his debtor. Dr. Charles Denison, of Denver, Colorado, in a paper read before the section of Laryngology and Otology, American Medical Association, suggests a valuable modification of Dr. O'Dwyer's instrument; it consists essentially in an improvement of the "Gag."

I quote from his paper: "A proper gag. My experience with the gag accompanying the first set sold of Dr. O'Dwyer's tubes, convinced me that a better means of getting and holding open the patient's jaw must be devised. The long handles being hit by the child's shoulder or some other part, thus disengaging the instrument, together with a bitten and poisoned index finger, settled the question for me, and I devised a simple two-armed gag, separated by a rachet controlled by the thumb and forefinger, which has served very well in many subsequent intubations." For further description and illustration of Dr. Denison's addition to Dr. O'Dwyer's instrument, see JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, June 7, 1890.

RAPID TRACHEOTOMY.

Rapid tracheotomy must occasionally be made both for disease and for foreign body. The physician finds his patient in extremity; for rescue, relief must be given promptly. The following cases show the hazard which attend occasionally foreign bodies in the air passage.

Case 3.—A fragment of nutshell in the larynx. A messenger came hurriedly for me one holiday morning; he informed me that a boy about 10 years old "had swallowed, the night before, a fragment of a nutshell." Supposing it to be in the œsophagus, from the time which had elapsed, about thirteen hours, I said, "why did he not come with you?" "Oh," he replied, "he can't get his breath." This convinced me that the obstruction was in the air passage. When I arrived at the residence he was lying on a bed in a dark corner of the room, his breathing consisted of gasping and not more than five or six in the minute, color livid, skin cold, pulse scarcely perceptible. We hurried him to a table opposite to a window and with great rapidity I operated; my assistants, Drs. McMechan and James, said that less than a minute was occupied. As soon as the trachea was opened his faint spasmodic gasps stopped, but by efforts at establishing artificial respiration and irritating the interior of the trachea, at last a slight inspiratory effort was made, then another, and another; soon the color began to return to his lips, his eyes opened and promptly respiration was fairly established.

Where was the nutshell? Not below, for the probe that I had so often passed down to the bifurcation, had encountered no hard substance; then, too, such a substance would not have caused such difficulty in breathing; had it been in one of the bronchial tubes, he would have had one lung free. Directing our investigations toward the larynx it was discovered, and with a pair of forceps removed.

The history of the case is singular and interesting. During the previous evening while eating a variety of hickory nuts a portion of the hull passed into the larynx; it produced some coughing but no difficulty in breathing, the coughing soon subsided and at 8 P.M. he retired and went to sleep, but awoke at 3 A.M., sprang out of bed "struggling for breath." He soon became exhausted and was placed in bed. Physicians were called; one looked at him, at 8 A.M., five hours after he had commenced gasping, and said "he could not operate on a dying patient," gave him some medicine, or rather wrote a prescription, and said he would call again at twelve o'clock!!! This was about 8 A.M. I arrived between 9 and 10 A.M. and found his respiration made up, as heretofore said, of mere gasps.

Why was this boy so comfortable from the time the hull was inhaled, somewhat before 8 P.M. until 3 A.M., more than seven hours? The hull was flat, about the size of the nail of the little finger, it lodged in the larynx, and whilst it maintained an upright position, respiration and vocalization too, as it was below the cords, were not materially interfered with, but when it fell to a horizontal position it obliterated almost entirely the lumen of the cricoid, hence his struggles. It is marvelous that he lived so long

Case 4.— A fragment of oyster shell in the larynx of a child seven months old.

I was called by Dr. Bishop, Jr., of Loveland, twenty-five miles distant, to see a delicate child seven months old, with all the symptoms of a foreign body in the air passage; it was in collapse. Its history, as had been learned by the attending physician, was, "one moment it had been well, the next its breathing was of the most alarming character." It had been left alone for a short time, nothing could be found which it could have put into its mouth, except that some fragments of celery were within its reach, and a small portion, it was supposed, had got into the windpipe. No time was to be lost, the little thing was livid and almost pulseless. The trachea was opened as rapidly as possible, it soon rallied by breathing through the incision. In looking for the embarrassing substance no trace was found below, but the probe encountered a hard substance above the incision and within the cricoid. With a delicate pair of forceps it was removed, and our surprise may be imagined, when we discovered a small fragment of an oyster shell. The family had had oysters for breakfast. The recovery of the little patient was uninterrupted, showing that the operation does not make a severe draught upon vitality. It is to be hoped that, as he grows in years and discretion, he will confine himself to the interior of the bivalve.

CONCLUSIONS.

I beg to state a few propositions:

1. Tracheotomy is our only remedy for foreign

bodies, and in cases of obstruction from disease where O'Dwyer's intubing apparatus can not be obtained, or in cases where intubing is not practicable.

2. The incision should be made by transfixion, and then the connective tissue treated by a blunt instrument or a steel director.

3. Where should the operation be made? In the upper or middle portion of the trachea; the reasons for this selection of location have already been given.

4. When the isthmus is hypertrophied or vascular, ligate it on either side and then cut it in median line between the ligatures.

5. What kind of knife should be used? A sharp, pointed, curved bistoury for both the skin and trachea. As already explained no hæmorrhage follows its use in dividing the skin, and in opening the trachea it steadies the tube and dispenses with the "forceps, hook, or thumb and fingers."

6. How to keep the way open? If a foreign body is not promptly expelled, place a loop of silk thread on either side and tie these ligatures behind the neck. So also in cases of disease where the tube does not act well Brainard's ligatures may be substituted.

ACUTE RHEUMATISM IN CHILDREN.

Read in the Section of Diseases of Children, at the Forty-first Annual Meeting of the American Medical Association, held at Nashville, Tenn., May, 1890.

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LECTURER ON DISEASES OF CHILDREN IN THE COLLEGE OF PHYSICIANS AND SURGEONS, BOSTON.

It is not my intention in this paper to enter into a discussion of all the etiological factors or the theories of blood changes occurring in acute rheumatism; neither can I offer anything especially new in the study of this disease; but I propose to outline the main points of interest which may arise in connection with acute rheumatism as observed in children, contrasted to those observed in adults.

The study of acute rheumatism in children comprises a far wider range of territory, and gives us a more complete conception of its nature, than in the cases of adults. The finely organized and delicate tissues of a child offer a more extended area for the distribution of rheumatic disturbances. Its pathological range is not limited to the fibro-serous structures so uniformly, but may also comprise the mucous membranes and the skin. The statement that acute rheumatism in children is a rare disease is not well founded; indeed, I am inclined to think childhood rather predisposes to it when accompanied with poverty.

Children, and especially those of the lower classes, are continually exposed to damp and cold, which offers to them a factor in the causation of rheumatism, against which the adult is more careful to protect himself. Then, too, it must be remembered that the same causes act on the parents of these unfortunates, developing an hereditary tendency, and rheumatism is one of the most common of diseases to be handed down from generation to generation.

It is often the case to find very slight manifestations of the articular affection in the child, or none at all, but instead an inflammatory process going on in some sero-fibrous structure, as the endocardium, for example, that can be traced to no appreciable cause except exposure to cold and the consequent slight affection of some muscle, to indicate that the patient has developed a rheumatic diathesis; yet in these very cases one may find the direst lesions of the heart valves or pericardium.

A child may contract acute rheumatism at any age, but the greatest liability is between the fifth year and puberty. Cases occurring during this term are pretty evenly distributed. Many are recorded much earlier in life. Henoch cites one at ten months, Stäger one at four weeks. The earliest I have attended was one in a girl eighteen months old, where the inflammation of the knee joint was well marked; in this case erythema appeared.

Sex, contrary to the predisposition in adults, does not seem to have any significant etiological importance in childhood; there is a pretty even distribution between girls and boys. It is doubtful if there is any special type of complexion or temperament predisposing to an arthritic diathesis.

Acute rheumatism in children may be primary or secondary. It is secondary only to scarlatina or diphtheria. What the pathological processes are that influence the exciting of rheumatic tendency following these diseases, is uncertain; but it is not altogether uncommon to find joint affections attending scarlatina, and that these affections are not to be distinguished from acute rheumatism, inasmuch as they are liable to be complicated with endocarditis or pericarditis.

Exposure to wet and cold is generally considered the most prominent of exciting causes; and when taking into account the formation of lactic acid in muscular exercise and the naturally active habits of a child, it may become a prime factor in the production of rheumatism in them, especially when they are exposed to chilling influences after bodily exertion.

Dr. Haig-Brown, in the *British Medical Journal*, September, 1889, points out the similarity of the exciting causes of rheumatism and follicular tonsillitis. One is two extremes of weather, viz.: excessive damp and cold, with fog and northeast winds, and excessive hot and dry, with the humidity of the atmosphere at about 80, and of

course no fog; the other is the septic influence of poor drainage.

The post-mortem changes to be found in children with rheumatism differ greatly, according to the severity of the various local affections. The joints are ofttimes so slightly damaged as not to give those marked pathological changes so uniformly present in the adult. The synovial membranes may, however, be hyperæmic, and there is more or less effusion into the joint cavities and surrounding tissues. This effusion may consist of synovia, or serum containing blood corpuscles or leucocytes. Occasionally minute hæmorrhages in the more vascular portions occur. Rarely is there suppuration or ulceration of the cartilages. In children, commonly, one finds near the joint or tendons fibrous nodules, a condition similar to that found on the cardiac valves after rheumatic endocarditis.

Erythema may be manifested in the skin about the swollen joint and elsewhere, and there are often evidences of acute tonsillitis in the throat.

It has been my experience to observe in children a number of cases where the inflammatory process attacked the sheath of the muscle in preference to the fibrous structure of the joint. In these cases the extent of inflammation varied greatly; for the most part it would be confined to a muscle or group of muscles, and often would be accompanied with serious heart lesions. One recent case is fresh in my mind, that of a boy 8 years old. On exposure to wet and a chilling east wind he contracted acute rheumatism in the muscles of the calf of his left leg. It was swollen, hot and painful in the muscular portion, but not in the joint. In two days the inflammatory process had extended to every muscle in the body that was appreciable to the touch, and had invaded the pericardium. This boy died on the eighth day from date of exposure of acute pericarditis, and there was a rise of temperature after death for some hours.

The chief interest and danger in acute rheumatism of children lies in the extension of the inflammation to the heart. Endocarditis, pericarditis, and more rarely myocarditis, are pathological conditions generally found in autopsies on children dying from this disease; in fact they are principally the prime causes of death, as simple arthritic or muscular rheumatism tends to recovery.

It is out of the province of this paper to enter into a discussion of the morbid anatomy of heart disease, but it is generally found that in endocarditis it is the mitral valve that is the most frequently attacked and occasions permanent impairment of the cardiac functions, while lesions of the aortic valves are more liable to produce sudden death. Occasionally we may find an inflamed pleura, and even a pneumonia, associated with and dependent upon an attack of rheumatism, and instances of meningitis are not rare.

The symptomatology of acute rheumatism in the child varies according to the extent and severity of the inflammatory processes and the structures which they invade. Compared with this disease in adults there are scarcely any of the more prominent symptoms to any great extent, and those we are accustomed to credit as complications or sequelæ in them appear in the child as chief or initial manifestations. Thus, arthritis in children is at its minimum, while endocarditis or pericarditis is at its maximum of intensity; indeed, the latter may appear before any more characteristic symptom of rheumatism is observed. Then, too, a tonsillitis, pleurisy, or possibly chorea may appear as the more prominent symptom early in the attack.

Generally the commencement of acute idiopathic rheumatism is abrupt. There is a distinct recollection of the date of exposure, and this may be followed by some soreness and stiffness in the muscles or joints affected. There is redness, heat and swelling in the locality of the inflammation, and the affected limb is very painful on moving. As the inflammatory process abates in one joint or group of muscles, it reappears in some other, unless the morbific principle has in the meanwhile been eliminated from the system. Ordinarily the joint symptoms continue two or three days before attacking a second articulation.

The temperature of acute rheumatism in children does not run high—seldom more than 102–103. There are cases on record of hyperpyrexia in this disease, but they are of rare occurrence. This is perhaps singular, because it is contrary to the general run of fevers in childhood. The febrile movement does not last more than two or three days.

Sweating in rheumatism is slight in children, as compared with the profuse acid perspiration of adults, and in consequence is not so sour-smelling.

It is in childhood that heart disease plays the most prominent and important part in acute rheumatism. Endocarditis is almost sure to follow joint affections, and often it may be the sole expression of the rheumatic state. It is generally confined to the left side of the heart, the mitral valve being the most frequently attacked, although it is common to find both aortic and mitral involved in the inflammatory process. It occurs in a relative proportion of 72 to 46 per cent., as compared with endocarditis of adults in acute rheumatism.

The endocarditis, as a rule, is of a subacute variety, and is prone to assume a relapsing character. The first or early sign is a soft, blowing murmur, indicative of a primary attack. This may disappear in a few weeks, but oftener increases in distinctness and becomes a loud, harsh murmur, heard, if the mitral valve be affected, loudest at the apex. Another cardiac sign in-

dicative of the development of endocarditis is the reduplication of the second sound, audible at the apex only. This is to be distinguished from a similar reduplication heard at the base, sometimes as a result of Bright's disease, sometimes as the consequence of pulmonary obstruction. Occasionally this reduplication is accompanied by a diastolic murmur indicating mitral stenosis, and is a certain evidence of endocarditis.

Pericarditis is more common in children, during an attack of rheumatism, than it is in adults, and nearly as much so as endocarditis, to which it bears resemblance in its manner of onset and continuance. It is regarded by some as less liable to occur in a primary attack of acute rheumatism in childhood. It is generally subacute, and is to be distinguished from endocarditis mainly by the friction sounds, the increased præcordial dulness, and rapid respiration and pulse rate.

Pleurisy is not a rare manifestation of acute rheumatism, is usually found on the left side, and may be secondary to pericarditis; but when it occurs alone, followed by arthritis, it is to be considered as a direct expression of the rheumatic diathesis.

Peritonitis has been occasionally observed and meningitis found existing in a certain proportion of rheumatic cases.

That the same causes act to produce tonsillitis as acute rheumatism, has been mentioned; hence, taking this view of it, there is little wonder that tonsillitis occurs during the course of rheumatism, or may usher in its initial stage. Rheumatic sore throat has long been recognized as a prominent symptom in children; indeed, it is not uncommon to see a child come into the dispensary with enlargement of the tonsils, having previously had attacks of rheumatism. Statistics show that tonsillitis occurs as a primary symptom of the rheumatic diathesis in 24 per cent. of cases.

Bronchitis and pneumonia may occur as symptoms of the rheumatic state, but more rare.

Erythema in some form is a pretty constant concomitant of acute rheumatism in children. Since commencing this paper I have seen a case that, save for the inflamed wrist joint and the mild fever, might easily have been taken for some exanthematous disease.

In a certain number of cases a neurotic tendency is manifested; chorea, with or without emotional excitability, is the form predominant. The preponderance of cases is in girls in a ratio of three to one, as compared with boys.

When thrombosis or embolism occurs, as they rarely do in connection with heart disease, a serious source of danger is manifested.

Delirium supervenes in a certain number of cases, probably due to the action of rheumatic virus on the nerve centres.

Anæmia is a common accompaniment of the rheumatic diathesis in children, and is especially well marked in cases where there is serious heart trouble.

There is one condition which is more prone to occur in children than adults, namely the development of fibrous nodules in connection with this disease. These nodules are found in the neighborhood of joints and tendons, are not painful, but may assume the size of an almond, they appear in successive crops or singly.

Regarding the diagnosis of acute rheumatism in children there is little to say; most cases are self-evident. There may be room for confounding it with scrofulous arthritis, but the latter would be more chronic, less indurating and symmetrical about the joint.

When endocarditis arises in the child, there is strong presumption that it is rheumatic in origin. From fifty to eighty per cent. are said to be traceable to rheumatism, and if it be accompanied by a rheumatic train of symptoms, as chorea, fibrous nodules, erythema or joint affection, the diagnosis is certain. The duration of acute rheumatism in children is shorter than in adults; two or three weeks usually suffices for the primary attack, and often it is much shorter.

Since the introduction of salicylic acid in the treatment of acute rheumatism the profession have held a most powerful sheet anchor to throw to windward in times of need; now and then there are failures of course, but in the main salicylic acid, and its derivatives, may almost be called a specific in this disease, and it is no less efficacious in children than in adults. It mitigates the fever, alleviates the pain, and, withal, renders the child less liable to heart complications. The most efficacious preparation is the salicylate of soda, and regulated in the proper dosage does no more harm than any of the other preparations of salicylic acid, in fact it is more soluble, more palatable and quicker absorbed by the system. There are some drawbacks to be sure; it may cause vertigo, deafness, ringing in the ears, and prostration, also it may cause epistaxis, but such effects of the drug are less liable to occur in children than in adults.

Salicin is preferred by some, but it takes a larger dose to perform the same work and obtain the same results than the salicylate of soda.

The general experience with salol is, that it is a much inferior preparation to any of the others just mentioned; it is ofttimes beneficial, however, in mild cases.

It is a good plan to combine an alkali, like the bicarbonate of soda with the salicylate of soda. The salts of potash are too depressing to be as safe as those of soda, and depressing drugs are to be avoided in rheumatism.

Absolute rest in bed is a prime requisite in the treatment of acute rheumatism in children, and this should be combined with warmth. When the limbs are swollen and painful, I generally di-

rect a strong, hot bicarbonate of soda solution to be prepared, into which flannels are dipped, and wrung, and quickly applied to the affected limb or joint. This tends to sooth the pain, and often times the little sufferer obtains a few hours of refreshing sleep after a night of pain and restlessness.

If heart symptoms arise, the salicylates should be stopped and the alkali increased, say from ten to fifteen grains of bicarbonate of soda every four hours, to a child of five years. Warm poultices may be applied to the præcordia in endocarditis, but blistering should be avoided. On the other hand, in pericarditis local depletion by two or three leeches is advisable, and blisters are warrantable after the effusion has supervened; care should be taken to stop the bleeding occasioned by the leeches.

When the heart's action becomes turbulent and rapid, the tincture of digitalis may be employed in three to five drop doses every four hours according to age, but it should be cautiously administered in pericarditis as it is a dangerous remedy in cases of extreme effusion. Strophanthus may be employed in its place if preferred.

Stimulents are necessary when heart failure is imminent and should be pushed to a point of materially relieving the exhausted vital powers. Alcohol and nitro-glycerine may be usefully employed for this purpose.

At times some form of opium is indicated for the treatment of the pain and restlessness of acute rheumatism in children, but only such doses should be used as will produce quiet, and under no consideration should it be pushed to a point of narcotism.

Dr. Goodwin, in the *New York Medical Journal*, 1888, called the attention of the profession to his use of the fluid extract of cascara sagrada in ten-drop doses three times a day as a laxative, also claiming a beneficial action on rheumatism in his own person and others.

Statistics do not seem to favor antipyrin in place of the salicylates, in the treatment of rheumatism. While it may relieve the pain and reduce the fever, yet it is not permanent in its action and, moreover, is a depressing agent on the heart.

Acetanilide bears a better reputation in the treatment of febrile movements in children than does antipyrin, and I think rheumatism is no exception to this rule.

Phenacetine is credited by many as being a safer and better drug to use than either of the previous antipyretics, and especially it has more permanent results.

Dr. Grinevitski, of Russia, recommends the hypodermic injection of osmic acid in a one per cent. solution in muscular rheumatism. Eight to twenty minims are thrown directly into the muscle substance. There is a burning sensation for a time which disappears and, he claims, the rheumatic pains are soon relieved, and from two to three injections effect a cure. I have never employed this agent but once, and that in an adult, the result was a certain amount of relief, but a number of injections did not effect a cure. As far as I can find the experience of others is similar.

When anæmia exists, arsenic and iron should be administered during convalescence.

Other symptoms rapidly disappear under the general treatment of rheumatism. The erythema needs no treatment, and the tonsillitis yields readily to the salicylates.

Acute rheumatism does not call for the restricted diet usually prescribed. During the pyrexia it is well to keep the patient on a milk and broth diet. In cases of extreme anæmia, meat juice, or even raw meat pulp, may be given with advantage as blood restorers. The self-digesting foods and peptonized milk are also most useful.

MEDICAL PROGRESS.

TREATMENT OF PURULENT PLEURISY OF INJECTIONS.—M. FERNET reports to the *Soc. Méd. des Hôpitaux* (*Jour. de Méd*, May, 1890), his success in the treatment of a case of pleurisy involving principally the diaphragm. A puncture was made and 200 grams of pus removed, after which 15 grams of Van Sweeten's liquid was injected. This operation was repeated each three or four days and at the end of ten days the symptoms had improved, and the fever disappeared. At the eighth *séance*, more than 200 grams of pus was removed, and the failure of the injections having been demonstrated recourse was had to naphthol, that it was thought, owing to its unsolubility, might remain longer in the cavity. The solution of M. Bouchard, consisting of naphthol β 5 grams, alcohol 33 grams and water 62 grams was used. Fifteen to twenty grams of this solution was thrown into the cavity with each injection. After five treatments the pus disappeared and the patient was convalescent. From the results of this case the writer thinks that the method of injection is applicable to certain pleurisys, whether infectious or not, as by this means the pus is evacuated and the center of the disease is reached. That it is especially applicable to circumscribed inflammations and those not readily reached by thorocotomy as mediastinal, interlobular and diaphragmatic pleurisys.

ANOMALIES OF THE SEXUAL FUNCTION.—M. MAGNAN presented to the Société de Médicine Légale (*Progrès Médical*, May, 1890), the history of two cases showing the variety of sexual per-

version known as "exhibitionists," or those having a tendency to expose the genital organs in public or to individuals, usually females, whom they meet in unfrequented places.

One of the two cases shows marked hereditary defect, and they both present typical degeneracy.

Magnan classes these cases with the kleptomaniacs, pyromaniacs, and the suicidal and homicidal insane. The relation of imperative conceptions to the abnormal impulses of these degenerate beings is pointed out.

SUSPENSION IN LOCOMOTOR ATAXIA.—ROSENBAUM presented the results of some 2,500 suspensions in eighty-five cases, to the Berlin Society for Internal Medicine (*Internat. Klin. Runds.*, May, 1890). The suspensions were made with Sayre's apparatus. The author recommends that the arm pieces be shortened at first, but as the patient is accustomed to the treatment more weight should be brought directly upon the head. The suspension should rarely exceed three minutes, and not oftener than three times each week. Patients with normal weight bore the treatment best and it is easier to accustom them to it.

Twenty-five of the cases were distinctly improved, in five no change was noted, while in nine the results were doubtful because of the brief time which they were under observation. In the patients benefited was noted an improvement in sleep, appetite increased and heavier weight. The most constant improvement was in Romberg's symptom and in the ataxia. After ten or twenty treatments some patients could lay aside their canes and take long walks. In fifteen the bladder troubles improved, though relapses occurred soon in most cases. The rectal reflexes were only occasionally improved, and in but four cases were the sexual troubles benefited. The gastric crises and vomiting were improved in many cases. That the method is not free from danger is attested by occasional deaths; and it should not be resorted to in cases presenting lung troubles, heart disease or atheroma.

In the discussion P. Gutmann stated that he had employed suspension in twenty-five cases, ten of whom were ataxic, of these five were improved. A case of myelitis was benefited, and four cases of sciatica were relieved to some extent of pain, but no permanent good was obtained.

Prof. Leyden said that he did not regard suspension as of practical or theoretical importance. Like the nerve stretching that had preceded, nothing was to be expected from such a mechanical process upon the complicated conditions in ataxia. The method was not free from danger; accidents had happened but these could be diminished by care, though this very care operated against a successful suspension, and lessened the stretching. The method might be useful in overcoming some of the symptoms, such as pain and impotence, though the effect upon the mind was not to be disregarded.

Dr. Remak said that in a disease as changeable as tabes many methods would be used and good results obtained. If the changes are not too deep, any treatment will improve them, but occasional cases will grow worse with any or all treatment. The improvement in particular symptoms is not of much importance, as the mental condition plays such a considerable part in these changes.

Prof. Mendel said that all observers were agreed that the knee phenomenom and pupil reflexes were not altered by suspension, but that certain symptoms were permanently improved, which was not the case with other methods; baths, electricity, etc. The industry with which patients pursue for months this treatment speaks for its benefit.

THE MALARIAL INFECTION.—DR. F. PLEHN (*Arch. f. Hyg.*, x, i, p. 78, 1890), describes the results of the examination of the blood of three patients affected with malarial fever contracted in Germany. In one case (quotidian) he was able to demonstrate all the different stages in the development of the plasmodium malaria, with the exception of the so-called sickle and spindle forms. The blood was observed in a warm cell, and the plasmodium was seen in active movement, when treated with quinine they immediately vanished. In a case of tertian ague the characteristic plasmodium was seen but in greatly diminished numbers. In a case of quartan ague they could not be demonstrated.

In demonstrating the plasmodium the following method was pursued: The blood was received upon a cover glass and spread out, as thin as possible, and then fixed by allowing it to remain 10 minutes in absolute alcohol. The stain is made by diluting a concentrated watery solution of methyl-blue, one-half with water, and adding one-half its volume of a ½ per cent eosin solution (in 60 per cent alcohol). Before using the solution it should be filtered. The time occupied in staining is from a few minutes to twenty-four hours. The red blood corpuscles and the protoplasm of the white appear rose colored, while the nuclei of the white corpuscles are stained a dark blue, and the malarial parasite a light blue.

THE ETIOLOGY OF INTERMITTENT FEVER.—DR. RICH POLTAUF (*Wien Klin. Wchnschr.*, iii, 2, 3, 1890), gives a long account of the literature regarding the malarial germ of Laveran. He states the results of his own observations which agree with those of Celli and Güarueri. He holds that the etological relation of the plasmodium cannot be denied, and that it offers an explanation of the dark pigment found in intermittent fevers; the germs converting the hæmoglobin of the blood into melanin.

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SATURDAY, JULY 12, 1890.

THE CLINICAL SIGNIFICANCE OF THE DIAZO-REACTION (EHRLICH'S TYPHOID FEVER TEST).

When this test was first published it attracted universal attention and soon the journals were filled with reports. After a time it was found that it was by no means diagnostic of typhoid fever, and for a time, the popularity of the test waned. Later it has been shown that it has considerable value in a clinical way, not only in diagnosis but in prognosis. DR. L. RÜTIMEYER (*Correspondenz-Blatt für Schweizer Aerzte*, May 15, 1890) gives a careful study of the literature up to date, and adds the result of his own observations, upon 260 patients; the total number of tests amounting to 2,750. He used the solution recommended by EHRLICH: a concentrated watery solution of sulfonilic acid, and a ½ of 1 per cent. solution of sodium nitrite. From these two solutions the reagent is each time freshly prepared, by adding to 200 cc. of the sulfonilic acid solution 10 cc. of pure hydrochloric acid and 6 cc. of the sodium nitrite solution. It is better to prepare the solutions freshly as they keep but a few days in summer, while in cold weather they will remain active for some months.

The statements of PETRI, that the reaction is occasionally obtained in normal urine, and of PENZOLDT that it takes place in diabetic urine, is met by the statement of Ehrlich that these observers used solutions of too great strength. SPIETHOFF has experimentally confirmed this view and has obtained with glucose a pseudo-reaction, but this does not give the green precipitate, characteristic of the true reaction. These results substantially agree with those of Rütimeyer, who failed to get the reaction in normal urine and in a number of diseases; such as hysteria (5 cases), myelitis (2), hepatitis (2), diabetes (1), cystitis (7), pyelo-nephritis (1), ovarian cyst (3), and the most important from a diagnostic standpoint, 9 cases of abdominal catarrh. These observations confirm Ehrlich's view that the test draws a sharp line between acute gastro-abdominal catarrh and typhus, even when the former is accompanied by fever.

In nine cases of malignant peritonitis the reaction was obtained in eight; only one examination was made in the case in which it failed.

In ten cases of pneumonia a reaction was obtained in five. The author was not able to confirm the views of Ehrlich that the reaction was rarely obtained in pneumonia, and when it appeared it usually meant the presence of complications. FISCHER found a reaction in 7 cases out of 48, and in each one complications appeared at the same time. The appearance of the reaction was regarded as a *signum mali ominis*, which is confirmed by BRECHT, who found that 50 per cent. of cases with reaction died.

The reaction was found in 240 observations made upon 14 fatal cases of phthisis, in 186 instances, or 77 per cent. All of the fourteen cases presented the reaction. Nine phthisical patients were discharged improved, and of the 100 examinations made in these cases only 21 per cent. gave the reaction. Fifteen patients were discharged much improved and are now able to be at work; of the 202 tests made upon these only 18, or 9 per cent., were found to have the reaction. Upon these figures he bases his conclusion that in phthisis (1) a constant failure in the reaction means a light form of the disease, (2) its occasional presence is of no clinical significance, while (3) a constant reaction of a marked kind means an unfavorable prognosis, and an early fatal ending.

The observations upon 87 cases of typhoid lead to the following conclusions. (1) The diazo-reaction is of great importance in differentiating typhoid fever, roseola, splenic tumor, (malarial fevers?) and acute abdominal catarrh accompanied by fever. (2) In cases of suspected typhoid if the reaction is present we probably have to do with that condition; if it is absent during the first and second week we have a very mild case

or some other disease. (3) The amount of reaction does not depend on the febrile process. (4) Disappearance of the reaction in the second and third week ordinarily means an early convalescence or a light course of the disease. (5) Strong and persistent reaction is of no value in determining the probable ending. (6) A recurrence of the disease again shows the reaction even when it has disappeared.

Accompanying this article is an interesting table giving the observations as made from day to day and week to week. A glance at this table shows the relative frequency of the reaction in the different degrees and stages of typhus.

THE ALCOHOLIC QUESTION AND THE INEBRIATE.

It is a curious fact that while the American physician has contributed very little towards the solution of the question of alcohol as a food and medicine, his studies of the inebriate and different methods of treatment are far in advance, and largely quoted by all European authorities. Until recently the literature of this subject has received but little attention in the American Medical Association. Possibly because the intense agitation in lay circles may have covered up the medical interest and strengthened the impression that the subject was entirely a moral one. In the British Medical Association for over a dozen years, numerous papers have been read on the different phases of the alcoholic question, and committees appointed to consider them. One, a Committee on Legislation for Habitual Drunkards, has been continued for years, and has made some excellent reports. Another committee has been very prominent, called a Committee on the Control and Cure of Habitual Drunkards. In France the question of alcohol has brought out several very important studies which have been read before the Academy of Medicine and other societies, and finally have been embodied in several volumes, which practically comprise the best literature on the subject to-day. In the German medical societies the same subject has been discussed very freely during the last five years, and two large volumes have appeared, with many brochures, as the outcome of these discussions. In both England and France medical temperance societies have been formed, the central object of which seems to be to educate the laity concerning the use of alcohol. In 1870 a small society was formed in this country for the study and cure of inebriety. In 1884 a similar society was formed in England; in 1878 two other societies were organized in Germany and Austria. The object of these societies is a thorough scientific study of alcohol and the inebriate. While their special work has not attracted much attention, the rapidly increasing number of papers relating to this subject directly or indirectly, which appear in the programmes of medical society meetings, especially in Europe, show that this subject is going to occupy a large field in the medical science of the future.

Irrespective of all theories and personal opinions, is a practical view of this subject becoming more prominent every year. It is clearly evident that the profession must decide the disputed questions that are growing out of the increasing agitation of the use and abuse of alcohol all over the country. In Europe, where the subject receives but little attention among the common people, the medical interest in it increases very rapidly. It is the reverse in this country, the agitation and interest of the masses has not extended to the medical profession to any great extent. Yet it must come; every year the application of theories and moral and legal remedies demand from the medical profession recognition or endorsement.

Beyond the question of the use of alcohol as a medicinal agent, opens a vast field of social science, where the problems concerning the manufacture and sale of alcohol, and the control and treatment of the victims demand of the profession its best skill and judgment. Within a few years a new class of questions have been submitted to the profession, bearing on the responsibility and mental condition of persons who use alcohol to excess and commit crime, and whose conduct and acts raise doubts as to their mental soundness. Thus the question of alcohol and the inebriate has come to be a distinct medical topic, which cannot be put aside or ignored.

At the Nashville meeting DR. N. S. DAVIS, in his Address on Medicine, gave a very clear outline view of some recent conclusions of the value of alcohol as a food and medicine. The tone and spirit of his review of these late deductions, will serve as an admirable model for other studies in this field.

At the same meeting, in the Section on Neurology and Medical Jurisprudence, eight papers, including the President's Address, were read, devoted to questions of jurisprudence relating to the inebriate. In 1888 two papers were read on this subject before the same Section at the Cincinnati meeting. The next year, at Newport, three papers were presented, indicating how rapidly this subject is coming into prominence.

Dr. Davis' review of alcohol, and the papers read before the Section of Jurisprudence, show that the Association has recognized the demand of public opinion for more accurate scientific knowledge of alcohol and its effects.

To the American physician this subject has a peculiar special interest, for the reason that it occupies so large a share of current popular opinion, and is growing to be one of the great topics of the day. The more this subject is agitated, the more urgent the appeal to medical men for counsel and advice. There is no more important realm for the physician to-day, than the study of alcohol and the inebriate; a study that shall be above all theories and prejudices, and shall aim to find the exact facts and their rational conclusions. While it is a source of pleasure to record the fact, that American physicians have made greater progress in the study of the inebriate and his treatment, still the whole subject has been scarcely touched. The question of alcohol and its action in health and disease is almost an "undiscovered country," and notwithstanding all that is written it is evident that the current opinions and theories of to-day will undergo great changes in the near future.

To medical men who are connected with large laboratories a grand field for original work is open in experiments on the action of alcohol, not only to confirm results which have been previously reached but to discover new facts and conditions relating to its action. The general practitioner has also a grand field for original observation, in both city and country, in the study of the conditions which favor the development and growth of the inebriate and the natural history and progress of the drink impulse, also the possibility of cure and prevention.

The growing magnitude of this subject, and the intense personal interests which come out of it in every community, is an additional important reason why the physician should make this a special study, and thus teach public opinion instead of being taught by it.

NITROGLYCERINE IN GAS ASPHYXIA.

Dr. C. W. Goss, of Lancaster, Ohio, writes to the *New York Medical Journal* an interesting account of a case of gas asphyxiation treated by means of nitroglycerine, hypodermatically applied. A plumber, forty years old, was employed to tap a gas main in an unventilated cellar, when the pipe was suddenly broken off. Before the defect could be repaired, or the workman could get out of the cellar, he was completely overcome by the escaping gas. When the physician reached the patient, he was found cyanotic, with very shallow and spasmodic respiration; he was pulseless at wrist, the extremities were cold, and a state of profound unconsciousness existed. Hypodermics of nitroglycerine, in one one-hundredth grain doses, were given every ten minutes. Within half a minute after the first injection, the radial pulse began to declare itself, and thence grew steadily stronger, while at the end of fifty minutes consciousness was regained, and the patient said he felt quite well, with the exception of a numbness in the extremities. From this time on he grew better, and left for his home at the end of three hours. Artificial respiration was not employed in this case, but it was observed that as the volume of the pulse returned, the embarrassment of breathing was diminished; so that if this case can be taken as a guide, the prime indication will be held to be to establish the equilibrium of the heart and to let the respiration take care of itself. In the same journal, may be found the abstract of a case of overdosage with nitroglycerine, where a person, by mistake, took two drachms of a 1 per cent. solution of the drug: this was followed by recovery, under medical treatment, but for a time the condition of the patient was suggestive of a fatal termination. The symptoms of this poisonous dose were a loss of consciousness, not complete, cold extremities, pallor, dyspnœa, and nausea. Some slight exhilaration was experienced at first but the pulse remained strong and regular, beating 80 to the minute. The distress in the gastric region was relieved by the emetic effect produced by a dose of mustard administered in hot coffee. When the patient returned to full consciousness, she informed her physician that she had been only partially cognizant of what had taken place, but was able to remember the facts of the dyspnœa and of the stomach malaise.

There are now on record three or four other cases of poisoning by illuminatory or coal gas in which nitroglycerine has been used, as one of the parts of the treatment, and recovery has been the result or sequel in every case. In these cases, the hypodermatic use of the drug has been most promptly followed by a manifest improvement in the condition of the patients; the dose has not been repeated in every case at so short intervals, ten minutes, as in this case of Dr. Goss. It may hereafter be determined that a good recovery may be obtained at intervals of half-hour to hour, according to the pulse reaction. It may also be determined that, as is suggested by Dr. Goss, the only treatment that is needed is that by nitroglycerine, and that the battery, or the injection of stimulants, or the practice of artificial respiration may not be called for. It has been assumed that the carbon monoxide, or whatever other ingredient it may be in the olefiant gas that acts as the poison, did its harm as a suffocant, rather than as a heart-depressant, whereas the reverse is likely to be discovered to be the fact, if the observations recently made as to the effects of nitroglycerine shall be confirmed.

EDITORIAL NOTES.

THE HYGIENE OF INFANCY.—The Paris Academy of Medicine has voted to offer a prize of 1,000 francs for the best essay on the hygiene of infancy. It is open to all comers and will be awarded in March, 1891.

GOLD AND SILVER TESTIMONIALS TO SURGEON PARKE.—No medical hero has, in recent times, been better received in London than has Surgeon Parke of the Stanley expedition, and yet withal he is as modest as a young boy. At one of the London banquets, his reception was so overpowering to him that he could not find his voice, so that the master of the feast, in mercy, called upon one of his table companions to tide over the trying moment by the singing of a song. The council of the British Medical Association has voted to confer upon Mr. Parke the gold medal of that Association, the highest unofficial recognition of heroism and fidelity that is known to the English profession. The proprietors of the *Lancet*, not to be outdone, have had prepared a grand silver salver, weighing two hundred ounces, to commemorate for several generations, at least, the high esteem of the medical "Thunderer" for this young surgeon. Meanwhile the Government is being inquired of on every hand why something official has not been done worthy of the hour and hero.

NEW AND NOVEL WINTER RESORT IN NORTH AFRICA.—Biskra, in Algeria, is the latest novelty in the way of a health resort in winter. It is on the edge of the great desert Sahara, and only a short time ago was an unpromising barren waste. But it has been "reclaimed" by means of artesian wells, has become a veritable garden spot growing date-palm trees by the hundred thousand, and can be approached by a railway, a little less than 200 miles in length, running directly there from Phillipeville, on the Mediterranean coast. It has thermal waters, brought up some 2,500 feet by the artesian tubes, and may prove a very acceptable place of resort to those who desire a warm, dry climate after the season is over at Vichy, Baden, Aix-les-Bains and the like. A very extensive establishment has grown up here in connection with the hotel and bathing-houses and casino; an avenue of palm trees will connect the hotel with Beni-Mora, a small oasis, a few miles distant, whose borders are constantly being extended by the revivifying influences of the subterranean waters that have been brought up by the artesian method. This is probably the first attempt, in modern times, to construct a health resort in the Saharan desert. We shall probably hear more of it.

DEATH FROM TIGHT LACING.—A death from tight lacing is briefly reported in the *Lancet*, for June 14, in the person of an actress of one of the Berlin theatres. This young woman retired to bed as usual one night, after taking part in the performance, apparently in good health, but she was found dead in her bed in the morning. She practiced tight lacing to an extreme degree, and her premature demise was undoubtedly referable to a cardiac syncope brought on by that injurious habit.

DR. M. D. EWELL, of Chicago, has recently been appointed Lecturer on Medical Jurisprudence at the University of Michigan.

THE honorary degree of LL.D. has been conferred by Lafayette College on Dr. Dr. Ezra M. Hunt, of Trenton, N. J., and by Yale University on Dr. Francis Delafield, of New York.

How Diphtheria is Spread by Corpses.—In March, 1890, two corpses, woman and child of same family, dead of throat disease, certified by attending physician to be not "dangerous to the public health," were conveyed from Montmorency county to Lapeer county, Michigan, where, just one week from the day the coffins were opened and the remains viewed, a person who was thus exposed came down with diphtheria. Many others would probably have been exposed except for the action of the local health officer, Dr. C. A. Wisner, who, suspecting that the cause of the deaths was diphtheria, warned the neighbors and forbade the opening of the coffins at the funeral. He promptly isolated the first case that occurred, and no epidemic resulted. This is quite different from the result of a similar occurrence at Zanesville, Ohio, last spring, where many deaths resulted from exposure to a corpse brought from Chicago. It shows the importance of notice to the local health officer of the arrival of every corpse, so that he may take every precaution which may be necessary.

The Central New York Medical Association on Coroners.—At a meeting of this society, held a short time ago in Rochester, the following resolutions were adopted:

Whereas, It is part of the duties of a coroner to view all dangerously wounded persons and bodies found dead, to determine when, where, how, and in what manner such persons were wounded or came to their death, and to cause inquests to be held if in his opinion a crime has been attempted; and

Whereas, Such duties presuppose not only a knowledge of law and of legal processes, but also such a knowledge of anatomy, physiology, pathology, toxicology, and other allied sciences, as to qualify the coroner to determine between natural and criminal conditions; and

Whereas, The office of coroner may be, and often is, held by men without legal or scientific qualifications; therefore,

Resolved, That in the judgment of the Central New York Medical Society the laws relating to the office of coroner ought to be so changed as to render only competent men eligible to office, to the end that society may be better protected from attempted crime; and

Resolved, That the State Board of Charities, the Medical Society of the State of New York, and other societies interested in promoting the common weal, be requested to coöperate in the effort to accomplish the enactment of new laws relating to coroners, as set forth in the foregoing resolutions.

The following officers were elected to serve for the ensuing year: President, Dr. Nathan Jacobson, of Syracuse; First Vice-President, Dr. A. A. Hubbell, of Buffalo; Second Vice-President, Dr. R. M. Cooley, of Oswego; delegates to State Convention, Drs. B. I. Preston, of Rochester, and C. H. Richmond, of Livonia.

A Strange Accident.—Death sometimes seizes his victims in most queer and unexpected ways, but a stranger accident than one that happaned not long ago in New York has seldom been recorded. A lady who had been suffering for several years from pulmonary trouble had been advised to try inhalations of hot air, and had purchased an apparatus for that purpose. In this apparatus is a thermometer, by means of which the patient is enabled to tell when the temperature is at the required height for the inhalations. One day the lady noticed a peculiar dryness of the throat coming on during the inhalation, but did not think much about it until it began to grow very uncomfortable. Then she inspected the apparatus, and found that there was a white powder in the inhaling tube. Removing this, she resumed the inhalations, but was soon obliged to desist on account of a sudden illness. This increased, and in spite of treatment the lady died the following day. Examination of the apparatus showed that the thermometer had broken, and the mercury falling out had been volatilized by the great heat and had caused fatal mercurial poisoning.—*Medical Record.*

An Unjust Discrimination.—The medical examining board of Washington consists of nine members, appointed by the Governor, three only of whom are regular physicians. At the recent annual meeting of the State Medical Association, held at Spokane Falls, a committee was appointed to draft a communication addressed to Governor Ferry. In this protest it is stated that over 700 of the 800 practicing physicians in the State are regular, yet the profession is in a minority on the board, and that they pray that a redistribution may be made whereby they may have a pro rata representation in that body.—*Weekly Medical Review.*

The Oleates in British Pharmacopœia.—Dr. Shoemaker's oleate of zinc and the corresponding oleates of mercury prepared by double decomposition have been recommended by the Royal College of Physicians of London for admission into the British Pharmacopœia.

TOPICS OF THE WEEK.

CHOLERA IN EUROPE.

Whilst watching to see whether cholera was this year to advance from Mesopotamia and Persia by means of the lines of human intercourse between those countries and Southeastern Russia news has come to the effect that Western Europe is again the seat of this disease, an outbreak having occurred in one of the Mediterranean provinces of Spain, namely, Valencia. The first place affected was the village of Puebla de Rugat, with a population of some seven hundred inhabitants, where the disease is believed to have commenced on May 13 last. At first came the usual denials as to the true character of the malady; then it was admitted that it was choleraic in character; and lastly came an official announcement by the Minister of the Interior to the Senate to the effect that cholera did certainly prevail in Valencia, but that it was not Asiatic cholera. This last statement involves an extremely interesting consideration. The commencement of the disease in Puebla de Rugat is said to have corresponded with the excavation of a considerable amount of drain-sodden earth in the village; and, remembering the history of the province of Valencia during the European epidemic of 1884–86, it is quite possible that we may here be seeing a recrudescence of the disease, owing to the circumstance that the contagium of cholera, which had been lying dormant in the earth, has by reason of the excavations and consequent exposure to sun, rain and other new conditions become again active; and in this very limited sense the present outbreak may fairly be regarded as a local cholera, rather than a cholera newly imported from Asia or elsewhere. But the history of the disease in Spain is essentially that of true cholera, as that term is generally understood. By June 15 it had steadily spread, until out of 100 cases there had been twenty deaths. In the meantime, also, it had extended to other places near at hand, and notably to Montichalvo, where the well-known virulence of real cholera showed itself by causing seven deaths out of a total of fourteen attacks. People now fled from the affected localities, and in this way further diffusion of the disease occurred, one death taking place at Albaida, and one attack being reported from Valencia itself. The latest intelligence refers to sanitary cordons around the infected villages, from which two-thirds of the population had already escaped; to certain operations intended to secure the burning of the polluted soil excavated at Puebla de Rugat; to quarantine restrictions against arrivals from Valencia and other Spanish ports, and to measures of sanitary reform after the mischief has been induced. Some diminution in the epidemic is also reported. Recalling the circumstances of the last epidemic in Spain, it should be remembered that some three hundred cases of cholera occurred in that country in 1884, the main outbreak being in the province of Alicante, but Valencia also suffering. This occurrence was followed in 1885 by a widespread epidemic which, according to the official returns of the Director-General at Madrid, caused 338,685 attacks and 119,620 deaths, the deaths in the province of Valencia amounting to 21,612. And lastly, cholera still prevailed in certain parts of Spain during the early months of 1886. There is thus an interval of four years between the former and the present outbreak, and it is not difficult to conceive that the link between the two may have remained on Spanish territory.—*Lancet.*

CHOLERA IN THE EUPHRATES VALLEY.

When some months ago the Turkish authorities asserted the extinction or non-existence of cholera in Syria, while Russian consular agents maintained that it was still hovering on the borders of the Persian and Ottoman empires, we expressed our conviction that the subsidence of the epidemic was merely what might be expected at that season, and that it would reappear with the return of spring. And so it is; cholera is reported now as having broken out on the Imperial domains of Djedil and in the village of Bellek, near Bagdad, where six persons have died out of thirteen attacked. Bagdad was the headquarters of the epidemic last year, whence it was carried by the river boats far up the Tigris. We believe that the Foreign office received information of its occurrence as far north as Diarbekr and Erzeroum, though in the latter case it was more probably conveyed by road from Tabreez.

But, though it may thus appear to have receded, such a phenomenon would be without precedent. When, in 1847, it seemed to invade India from Turkestan, or, in 1865, it appeared in Armenia after it ravaged Constantinople and Saloniki, it was not retreating but performing a flank movement, and doubling on its own advance, as we have seen in the spread of influenza to India and Australia after it had overrun all Europe.

Cholera requires human intercourse for its conveyance, certain meteorological and local conditions for its development, and the injestion of specifically infected water, etc., for its communication. Thus, while it will cross the Atlantic in a fortnight, it marches by slow stages through lands where railways are still unknown, retiring into winter quarters when traffic and travel are suspended, to reopen the campaign with the return of warm weather which is naturally earlier in the south and the plains than in northern or mountainous regions.

In the winter of 1846-7 it had reached precisely the same points as it did last autumn, and in like manner withdrew for a time to the lower valley of the Euphrates and Tigris, recrossing the mountains and plateau of Armenia in the spring, reaching Astrakhan and Taganrog in July, and Moscow and St. Petersburg in September, when, with the approach of winter, it disappeared only to break out with renewed intensity, and, as it had travelled with tenfold greater rapidity along the good military roads between the Caucasus and the capitals than it had previously done through Persia, so when once it touched the margin of the restless life and commercial activity of Europe it was drawn into the vortex, and there was not a country or large town but had been invaded before the summer was over.

If we may venture to prophesy, we would say that it will not proceed further up the Tigris Valley, but travel-

ling by the Euphrates will be next heard of at Aleppo, and perhaps Beyrout, it will enter Egypt *via* Jeddah and Suez and then leave Alexandria for the Levantine and Mediterranean ports. From Tabreez it will take the route *via* Erzeroum and Trebizond to Constantinople, and Odessa, and by Baku, Tiflis, Derbent, and Astrakhan over Russia.—*British Medical Journal.*

BACTERIOLOGY AND EPIZOOTICS.

At the anniversary general meeting of the Royal Agricultural Society some interesting information was furnished in the annual report, which indicates that this powerful and wealthy society is recognizing the importance of extending its work in the direction of scientific investigation of the etiology and prophylaxis of epizoötic disease. Investigations, it was stated, had been carried on during the last six months in reference to the conditions under which tuberculosis was communicated from one class of animals to another, and from man to the lower animals, and also in regard to the microörganisms of pleuro-pneumonia, and the effects of inoculation. The action of the various organisms found in swine which had died of swine fever had been tested by experiments in feeding and inoculation, but no organism had yet been isolated which was capable of inducing typical swine fever or pleuro-pneumonia. Those investigations would be continued. The arrangements for the establishment of a department of scientific research at the Royal Veterinary College, under the grant from the Society, were proceeding, and it was expected that the department would shortly be in full work.—*Brit. Med. Journal.*

FASHIONS AND CUSTOMS OF THE DARK CONTINENT.

There is a sad monotony in our European fashions. Even the so-called changes are often fugues on a trivial theme, or thinly-disguised variations and reproductions of forgotten trivialities. Our new communications and lively interest in the gentle inhabitants of Central Africa may suggest some startling novelties. Besides the graceful extravagances of their head-dress—which, however hardly beats those of the seventeenth and eighteenth centuries, reconstructed for the public edification a few years since by Mr. Lewis Wingfield, and which may yet live again—there are many varieties among our new African *protégés* of the way they wear their *heads*. The ruling families of the Monbuttu tribe flatten their skulls so as to elongate their heads. The The Bari apply pressure just in front of the ears so as to heighten the head in that place. The Beli distinguish themselves by extracting the four front teeth of the lower jaw. Then there is a variety of ways of wearing a tail, which beat the Court train of the modern beauty in simplicity and perhaps in grace. The Madi wear cotton tails, which swing when they dance. Elsewhere a lady limits her costume to a twig arranged as a tail, and manages to seat herself at a court function with this appendage in a graceful and dignified manner without throwing it over her arm, and without the intervention of a chamberlain. In the matter of eating they are catholic and omnivorous, and nothing comes amiss from a banana—which furnishes food and, when fermented, drink—to a fat pig or a deceased wife's sister, who gives little trouble there to legislators. Owing to their reticence as to their burial customs—for which dark reasons are suggested—it is difficult to pursue this branch of anthropological and osteological research. It will be seen, from the graver gleanings which we publish elsewhere, that there is much to interest the physician and the anthropologist. Dr. Emin Pasha's diary is a mine of dry but instructive reading on this subject (*Emin Pasha in Central Africa*).

PRINCE BISMARCK AS A PATIENT.

Prince Bismarck used to have the reputation of thinking anything but nobly of the medical profession, and his differences of opinion with the late Professor Frerichs as to the pathology and therapeutics of that important political organ, the liver, were expressed in language more familiar perhaps to scientific controversialists than to diplomatists. It is probable that the great statesman was a refractory patient, but bitter experience seems to have taught him that throwing physic to the dogs is not the most satisfactory treatment for the growing infirmities of age. He is now, according to a statement which he recently made to a representative of the *Daily Telegraph*, a model patient, paying the most exemplary obedience to the counsels of his medical adviser, Professor Schweninger. The Prince some years ago was in some danger of becoming the largest as well as the greatest man in Germany, but Dr. Schweninger relieved him of the growing load of "too, too solid flesh," by the judicious application of Oertel's method, which has been made known to English readers by Dr. Mitchell Bruce and others. The details of the Prince's present dietetic regimen may be interesting to those interested in the treatment of obesity. He says: "I am only allowed to drink thrice a day—a quarter of an hour after each meal, and each time not more than half a bottle of red sparkling Moselle, of a very light and dry character. Burgundy and beer, both of which I am extremely fond of are strictly forbidden to me; so are all the strong Rhenish and Spanish wines, and even claret. For some years I have been a total abstainer from all these generous liquors, much to the advantage of my health and my 'condition,' in the sporting sense of the word. Formerly I used to weigh over seventeen stone. By observing this regimen I brought myself down to under fourteen, and without any loss of strength—indeed, with gain. My normal weight now is 185 lbs. I am weighed once a day, by my doctor's orders, and any excess of that figure I at once set to work to get rid of, by exercise and special regimen. I ride a good deal, as well as walk. Cigar smoking I have given up altogether; it is debilitating and bad for the nerves. I am restricted to a long pipe, happily with a deep bowl, one after each meal, and I smoke nothing in it but Dutch Knaster tobacco, which is light, mild and soothing. Water makes me fat, so I must not drink it. However, the present arrangements suit me very well." Had Prince Bismarck shown himself as amenable to medical control in his robust prime as he finds himself compelled to be now, he would not perhaps have to submit to so strict a rule of life in his declining years.—*Brit. Med. Journal.*

PRACTICAL NOTES.

CRESALOL.

The salicylate of cresol, or cresalol, is analogous with salol or the salicylate of phenyl. It is crystalline, insoluble in water, sparingly soluble in alcohol, tasteless and having a pleasant odor resembling somewhat that of salol. Its antiseptic properties seem to be about the same as those of salol, but has a therapeutic preference over the latter in that it is relatively harmless, especially in the antiseptic treatment of the alimentary canal.

SUBSTITUTES FOR IODOFORM.

By the action of iodine on members of the phenol series in presence of an alkali a number of homologous compounds can be formed, all of which have much the same therapeutical properties as iodoform. One of these, the iodide of diiodophenol ($C_6H_3I_2OI$), has been proposed by Messinger and Nortmann, under the name of "annidaline," as an efficacious and inodorous substitute for iodoform. It is formed by heating together solutions of iodine in iodide of potassium; and of phenol in caustic potash, in the proportion of eight atoms of iodine to one molecule of phenol and four of potassic hydrate. There results a dark red amorphous precipitate, which, when dried, forms a fine powder without odor, insoluble in water and dilute acids, but soluble in alcohol, benzol, and chloroform. Aristol, another of these bodies, is the biniodide of dithymol, and is formed by acting on a solution of thymol in caustic soda, with iodine dissolved in iodide of potassium. It is a reddish-brown amorphous body without odor, and apparently non-toxic. Aristol is insoluble in water and glycerine, slightly soluble in alcohol, and readily soluble in ether. It adheres well to the skin, and is very convenient for employment in the form of powder. It has been used by Eichoff in lupus and psoriasis with good effect.

ALBUMINURIA AS A RESULT OF THE MORPHIA HABIT.

At the meeting of the Société Médicale des Hôpitaux on May 9, Dr. Huchard pointed out (*L'Union Méd.*, No 58), that the abuse of morphia sometimes causes albuminuria, which leads to death by uræmia Levinstein has published seven such cases, and Dr. Huchard contributed three others, all fatal from uræmia. As to the connection between the renal disease and morphinism, Dr. Huchard suggested that it might be through the action of the poison on the medulla, or by long-continued diminution of arterial tension; for he has found that morphine lowers arterial tension considerably, thus favoring passive congestion in the organs, the kidney among others. According to him, whereas excessive arterial tension will ultimately bring about arteriosclerosis, a persistent lowering of tension can lead to Bright's disease (obviously Dr. Huchard does not here speak of granular kidney, which is associated with high arterial tension). In conclusion, he pointed out that morphiomania, a cerebral condition, required different management from morphinism.—*Lancet.*

THE COLD BATH IN SCARLET FEVER.

The good effect of cold immersion in severe scarlet fever was well illustrated in a case related by M. Dieulafoy at a recent meeting of the Paris Hospitals Medical Society (*Bull. et Mém. Soc. Méd. des Hôpitaux*, No. 15). The patient, a girl sixteen years of age, was, on the sixth day of the fever, attacked by marked nervous symptoms, excitement, insomnia, suppression of urine, pulse from 120 to 150, and very high temperature. On the eighth day her condition was very grave, the eruption had disappeared, the temperature was 40.9°. C. (105.6°F.), pulse irregular and intermittent, and the prostration extreme. In spite of the fact that she was menstruating, he advised the cold bath, and after some delay the friends of the patient permitted the measure. She was placed in a bath at 24° C.(75° F.) which caused severe shivering, cyanosis, and coldness of the extremities. But the pulse rate fell from 150 to 100, and the delirium ceased. At the end of fifteen minutes she was removed from the bath, which was repeated three times during the night, at higher temperatures. The treatment was continued up to the eleventh day, when the body temperature became normal. M. Dieulafoy advocated the bath in all malignant forms of fever, and its good effects in scarlet fever were endorsed by MM. Johel-Renoy and Duponchel, who had obtained similar good results. Dr. Huchard advised caffeine injections for the collapse.—*Lancet.*

ANILINE DYES AS ANTISEPTICS.

In an essay entitled "Aniline Dyes as Antiseptics," Professor Stilling, of Strasburg, claims to have discovered antiseptics strong enough to kill bacteria in a concentration not injurious to the human body, and at the same time diffusive enough to spread wherever on a wounded surface suppurative micro-organisms exist. In the case of a man of seventy, the whole of whose left leg between the ankle and the knee was covered with ulcers which would not heal, Professor Stilling sterilized them all in a few days with the best result.—*Medical Record.*

SOCIETY PROCEEDINGS.

Allegheny County Medical Society.

Special Meeting, February 19, 1890.

W. S. FOSTER, M.D., PRESIDENT, IN THE CHAIR.

(*Concluded from page 36.*)

TRAUMATIC SECTION OF BOTH TENDONES ACHILLIS.

I have also recently treated a case of injury to one ankle joint, and to the leg on the opposite side, by a mowing machine. The man who subsequently became the patient stepped in front of the cutting bar of a mowing machine and struck the horses; the animals responded immediately; the cutting bar of the machine cut off the tendo Achillis, passed directly through the ankle, cutting off both malleoli, both posterior arteries, and the tendon of the posterior tibial muscle. On the other side the section was higher up; it passed through the tendon of Achillis and cut a piece off the tibia. Both the tendones Achillis were sewed with catgut, four stitches; the other stitches were put in place, and the usual antiseptic dressings applied without drainage. The man's wounds healed without any reaction or discharge whatever, and he walks well to-day without support. The union of the tendons was perfect. I think it is well to emphasize the fact that so long as there is circulation in a limb, an effort should be made to save it, and I think also that such an effort will usually be successful. In one particular, only, I would make some difference in the treatment from that laid down by Dr. McCann. I think that as times goes on I see less use for drainage tubes. When I first commenced to employ this treatment, I used a drain wherever I had a chance. There might have been some fluid, and there propbably was some fluid blood running during the first 24 hours, but afterward it was coagulated; after the primary dressing of the wound, I never washed it out, and in three or four days removed the tube with the clot in it, and have never seen any reason to change that practice; but I can believe that drainage tubes are more used than is necessary, and that if we succeed with our antisepsis and apply proper pressure, we need not be afraid of any accumulation of fluid in a wound. I have also seen that if, in a soft cavity there has been a serious accumulation because proper pressure has not been applied, such accumulation give rise to no serious inconvenience, and when evacuated the walls of the cavity collapse and unite without further discharge. I would therefore think that, instead of endeavoring to put in all the drainage tubes possible, I would limit them as a matter of convenience. The tube does no harm if properly used, but I think it is as usually applied unnecessary.

DR. HUSELTON: In the main I agree with Dr. McCann. I want to say that the amount of damage done to the skin in the case of a crush wound is no criterion of the amount of damage done to the interior parts, bones, muscles, nerves and vessels, and in accordance with my experience I think that where a hand, a wrist joint, an arm or an elbow joint, is caught between the bumpers of a car, the couplers or the deadwoods, sufficiently to produce a fracture, even if not compound, the best thing to do is to take that limb off; if you do not you will regret it and have to do it afterward. I have had considerable experience with injured ankle joints in railroad accidents. One of them was produced by the flange of a wheel; the joint was open so that I could put my fingers in. This I dressed antiseptically, cleansing it of all foreign material, washed it out, put it up antiseptically with a splint, without a drainage tube. I do not use drainage tubes very often, and I think I shall use them less often hereafter. This man got well and left my care before he had perfect locomotion in the joint; it had entirely healed, there was considerable motion; he was making a pretty good stagger at walking. In another case in which the right limb was crushed from the knee to the ankle joint, the left ankle was open so you could see into it also. In this case I amputated the right leg. I treated the ankle joint as in the previous case described, and the man to-day has a perfect ankle joint and a good wooden leg, and is walking around as well as any of us. I do not change the dressing so frequently as does Dr. McCann; sometimes do not remove the dressing for a week. I am governed entirely by the condition of the part and by the patient's condition as to temperature and pulse. If there are symptoms indicating the necessity of removing the dressing, I remove it, otherwise I leave it alone.

DR. RIGG: I would like to say a word in reference to the class of wounds spoken of by the gentlemen who have preceded me. In 1882, I treated my first compound fracture of the elbow. It was caused by an accident to a young man at work in a coal mine; he fell in front of a wagon, his foot caught in a frog, throwing the wagon off the track, the wagon running over his arm and elbow joint about the middle third. The superficial veins were lacerated, the arteries intact. The bleeding was controlled with little trouble. Since it was my first case of the kind, I took two physicians with me when I went to see the case a second time. They insisted on amputation. I removed at that time, I think, a half-dozen small pieces of bone; the young man insisted on leaving the arm as it was, believing there was a fairly good arm left. My plan was to treat it antiseptically, strictly so, and I placed it on an

incline, put no tight dressings to it at all, and had my dressings laid in such a way that I could at my own pleasure remove a portion of them to see what was going on beneath. I might say that the shortening as nearly as I could make it out was three and one half inches. I continued on this plan of treatment, and I may say without drainage tubes, until the arm was well and there was fair motion. There was never perfect motion. The humerus was very much thickened by reason of the fragments of bone not being adjusted closely. As to drainage tubes, I have used few. The last two cases of amputation I had, no drainage tubes were employed; they were amputations of the breast, and I believe them to be fairly good cases to test the value of a drainage tube, there being much surface made bare; and in both cases there was primary union throughout, something I have never seen where a drainage tube was used, and I feel that if the antiseptic treatment is followed out strictly, a drainage tube in the majority of cases is of little or no value, and oftentimes a little disadvantage.

DR. MCCANN: I want to say a word in regard to two or three of the criticisms. In the first place, I do not think that because a limb, elbow or wrist has been caught between a deadwood or drawhead, it necessarily requires amputation. I can show any one who is curious enough to come to the West Pennsylvania Hospital instances where not only the bones were crushed, but the soft parts also, that were saved.

As to drainage tubes. I do not like to introduce a foreign substance into a wound, would rather get along without it if I could; but for a crush involving the tissue of the joint or the muscles there must necessarily be a large amount of fluid secretions.

Now I do not care whether they are pent up underneath the skin without any access to air, they are likely to generate poisonous and irritating leucomaines, which cause local irritation and constitutional infection. We all know that before the days of antisepsis the tight closure of wounds was far less favorable in its results than the open method. Who can be sure when he closes his wound, that he has rendered it aseptic? And if he has accomplished this, there may be floating in his patient's blood germs capable of infecting the wound.

DR. BUCHANAN: There are two points on which I wish to speak. The first is the possibility of saving a limb that has been fairly and squarely caught between the bumpers, with fracture of the bones. I believe it can often be done, and I will cite a single instance. About six or eight months ago, I was called with my father to see a little girl whose arm had been caught between the bumpers of two freight cars; the arm was crushed, wholly crushed from the wrist to the elbow. The vessels were not injured, but there were multiple fractures of both bones and considerable pieces of bone had to be taken out. I think it safe to say more than half the muscular tissue was crushed off. The skin was extensively lacerated. The arm was shapeless. I do not think any injury could deserve the name of crush better than this one. It was so evidently a serious injury that her parents and friends and all persons who saw it thought the arm must be amputated. This arm was not amputated; it was thoroughly cleansed and put together, dressed with a straight splint; on no other kind of splint could the arm be kept in the semblance of an arm. It united without any suppuration, as is usual in such cases when antiseptically dressed, and while the child has not a beautiful arm, nor a very straight arm, she has a hand and a wrist and an elbow joint that are almost as useful as before. Now as to drainage tubes: I think it is hardly fair to bring up the surgery of ancient times to prove that drainage-tubes are good things. We will all admit that the essential object of a primary drain is to eliminate fluids which might become the breeding place for micro-organisms. And I am further satisfied that, if we can exclude local infection of the wound we need have no fear of its infection through the general circulation.

DR. GREEN: As I understand Dr. McCann in regard to drainage tubes, in applying an antiseptic dressing it is true of course that nobody can be positive that he leaves the wound without any danger of sepsis; I care not how carefully a wound may be washed, it is simply impossible to remove all the putrescible matter, a portion of it is bound to remain in the wound. It seems, therefore, the part of wisdom to provide means for its discharge.

Ohio State Medical Society.

Forty-fifth Annual Session, held at Columbus, June 4, 5, and 6, 1890.

J. MCCURDY, M.D., PRESIDENT IN THE CHAIR.

DR. G. A. COLLAMORE, Secretary, reported that there had been nine deaths during the year out of a membership of 536.

The following papers were read:

"Errors of Refraction and Muscular Adjustment as causes of Nervous Phenomena," by Dr. C. F. Clark, of Columbus; "Cleanliness in Eye Surgery," by Dr. B. L. Millikin, of Cleveland; "Surgery of the Knee-joint," by Dr. N. P. Dandridge, of Cincinnati; "Treatment of Compound Comminuted Fracture," by Dr. S. L. McCurdy, of Dennison; "The Rôle of the Microbe," by Dr. A. R. Smart, of Toledo; "The Etiology and Treatment of Pneumonia" by Dr. S. P. Deahofe, of Potsdam; and "Vaginal Hysterec-

tomy," by Dr. A. B. Carpenter, of Cleveland. Dr. D. P. Allen, of Cleveland, showed a woman on whom he had done a successful nephrectomy.

A committee appointed to secure the more thorough organization of the State, reported in favor of making the members of all the county societies members of the State Society, as is done in Indiana. The recommendation was taken under consideration for one year and the committee continued.

Dr. N. Senn, of Milwaukee, was elected an honorary member of the Society.

The President's Address by Dr. J. McCurdy, of Youngstown, was on the subject, "The Care and Treatment of the Insane in this Country." He compared the history of the treatment of the insane in the various countries with that in the United States, which was to the great credit of the latter country. He advised the taking of the incurable cases from the county poor-houses, and placing them in specially adapted institutions. He thought the law of New York State should be followed by others, viz., that all officers and attendants should be compelled to pass an examination, and not allowed to enter upon the work unless qualified. They should, when fully entered upon their duties, be placed upon the civil list and not subject to the caprices of politics. The asylums should be built on the cottage plan. One-half acre should be allowed to each inmate, and rural life encouraged. Medical societies should recognize, more than they have done, the study and treatment of the insane.

The Recent Epidemics of Diphtheria, Scarlet Fever, and La Grippe, at the "Sailors' and Soldiers' Orphans Home," at Xenia, was the subject of a paper by Dr. C. M. Galloway, of Xenia.

The More Frequent Use of Chloroform in Obstetrics was the subject of a paper by Dr. J. F. Baldwin, of Columbus. His conclusions were as follows: Chloroform relieves pain. It shortens labor. It prevents shock. It prevents nervous and physical exhaustion. It reduces the liability to rupture of the cervix and perineum. It does not conduce, to any material degree, to post-partum hæmorrhage. It does not affect the fœtus. It is absolutely safe when properly administered. He knew of no real contra-indications to its use, and urged that the boon be given to all women who ask it. He uses it chiefly in the second stage, carrying anæsthesia to the obstetrical degree merely; but at the last moment, when the head is distending the vulva and the agony is most extreme, he produces full anæsthesia.

The First Porro Operation Made in Ohio was the subject of a report made by Dr. J. F. Baldwin, of Columbus.

Carcinomata Mammæ was the subject of a paper by Dr. Dudley P. Allen, of Cleveland. The doctor believed that the common rules for diagnosis and the prevailing advice as to operation were bad. He insisted very strongly on the early operation. He thought we should not wait for immobility of axillary glands, for infiltration of tissue and depression of nipple. He recommended, as a method of gaining access to the axillary space, the finding of the axillary vein and following it up. On early diagnosis and operation depends the success of the case.

Puerperal Fever was the subject treated by Dr. G. H. Colville, of Harrisville. He favored antiseptic precautions and time in the open air after having seen an infectious case, before going to a woman in confinement.

The High Amputation of the Cervix vs. Total Extirpation of the Cervix was the subject treated by Dr. T. A. Reamy, of Cincinnati. He argued that if we remove the whole uterus for epithelioma of the cervix, why not remove the vagina, bladder and fimbriated extremities of the Fallopian tube? Three cases in New York, post mortem, showed disease limited to the external os. In two cases operated upon in Ohio the histological examination showed no evidences whatever of the existence of cancerous disease.

Intra-pelvic Surgery for the Relief of Inflammatory Diseases, was the subject of a paper by Dr. R. B. Hall, of Cincinnati. This paper was a report of one year's work, and a supplement to ten consecutive cases of abdominal section for the removal of the uterine appendages. The cases reached eighteen in number, and all but three had pus. All recovered. He wished to say that he could not make this report unmarred by a death, but that he had them where he could give them careful after-treatment. It has been asserted that the after-treatment in these cases amounts to nothing. As a rule, they do not require long treatment, but need very careful attention for a few days at first. These operations are among the most trying in pelvic surgery. No exact estimate can be made, before opening the abdomen, of the gravity and extent of the complications to be met with in any given case. No man has a right to open the abdomen unless he is prepared for any emergency which might occur, and is competent to deal with the conditions found on the spur of the moment. He thought that all cases of prolonged chronic salpingitis should have a prolonged and systematic course of treatment. In many of the cases reported, it was impossible to separate the adhesions without bursting the pus sac. In every case where this occurred, and in those where there was much bleeding, the abdominal cavity was washed out. Free washing-out of the abdominal cavity need not be feared, the heat relieves the shock. He has constantly employed it, when necessary, for three years, and has not seen a single case where it caused bad symptoms. The irrigation is continued till the water returns

clear. Although all the cases recovered, many of them would not submit to an operation till *in extremis*.

Report of a Case of Cholecystotomy, with exhibition of specimens, was the subject brought before the Society by Dr. Rufus B. Hall, of Cincinnati. The patient was a slender woman, 39 years of age, the mother of seven children, the youngest 6 years of age. Severe pain and vomiting of bile was followed by the jaundice and the observation of an enlargement in the region of the gall-bladder, which disappeared in about two weeks. It was not long till these symptoms returned. An operation was suggested, but refused. She went on and grew worse, falling from 115 to 90 pounds. When *in extremis* and apparently dying the doctor was called in consultation. An operation seemed the only ray of hope, and was suggested and consented to. The enlargement, which was supposed to be the gall-bladder, proved to be the liver. The gall-bladder was enlarged, and an obstruction was found, caused by a stone in the common duct. Patient lost considerable blood, and it was necessary to reopen the wound. Patient survived the second operation. For fully a week her temperature was subnormal, once or more times during the twenty-four hours. The tube was removed on the sixteenth day, and on the twenty-first the sinus closed. The cholæmia rapidly disappeared. She complained of nausea but little after the third day, and vomited but twice after the operation was made. On the third day she retained liquid food, and after the fifth she had a ravenous appetite. The stools showed the presence of bile from the first movement, which was on the fourth day; on the twenty-eighth day she was able to go down stairs, and is now in her usual good health.

FOREIGN CORRESPONDENCE.

LETTER FROM LONDON.

(FROM OUR OWN CORRESPONDENT.)

The Epidemic of Hypnotism—Experiments to determine the Relative Antiseptic Action af Essential Oils—An interesting Contribution to the Chemistry of Gout—Personal and Domestic Hygiene, etc.

The world is passing, according to Dr. Richardson, through one of those mental epidemics which are closely akin to those which are purely physical. He calls it the "epidemic of hypnotism." Napoleon I, it is observed, on his return from Elba, literally hypnotized and governed by soldierly suggestion, not one man, but thousands; not women and weak men, but soldiers who on the field of battle would know no fear. The same kind of power, Dr. Richardson says, has been, and can at times be, exercised in medical practice. Under it physical pain itself can be abolished for a time and the will of the subject be led into obedience, and even into deferred obedience, under the influence of the commanding will. Will hypnotism eventually supersede ether and chloroform? Dr. Richardson is of opinion that it will never become a serious rival of the physical anæsthetic, local or general, produced by volatile substances. Limited at this moment to the few who are susceptible to it, hypnotism must become still more limited as enlightenment goes on. As a method for producing oblivion from pain, he expects to find it further limited in application to short seasons of special social or meteorological cast, and if it fail, the influence of suggestion will fail with it.

Experiments have recently been made with the design of determining the relative antiseptic action of essential oils. The method adopted was to dip the cultures of bacteria, by means of platinum wires, into the oils for a certain time, and then to again embed them in agar-agar. The micro-organisms then developed if the oils employed were without effect. Typhus bacilli were killed by an immersion for twenty-four hours in the oils of cinnamon, cloves, thyme, verbena, absinthe, sandalwood and cedar. The oils of caraway, juniper, matico, galbanum, melina, valerian, lemon, savin, copaiba, pepper, turpentine, rose, camomile and cummin manifested a similar action in between twenty-four and forty-eight hours; the other essential oils first showed it after two to ten days. For comparison it was found that a 1 per cent. sublimate solution destroys the typhus bacillus within ten minutes; iodoform ether requires thirty-six hours. The glanders bacillus is killed by sublimate within fifteen minutes; the oils of cinnamon, cloves, thyme, verbena, geranium and origanum effect the same in from twenty-four to forty-eight hours; other ethereal oils in from two to fifteen days. It is suggested that the non-toxic quality of essential oils renders them suitable in the treatment of infectious diseases, but from the economical point of view this may be doubted.

At the recent meeting of the Royal Medical and Chirurgical Society, Sir William Roberts brought forward a most interesting contribution to the chemistry of gout. In a previous paper read before the society he adduced evidence to show that in the physiological state uric acid existed in the blood and urine exclusively as quadrurates, and that when it appeared otherwise this was due to abnormal changes in the quadrurates. The changes were traced which the quadrurate underwent in urine, and which led up to the separation of free uric acid in gravel. At this meeting Sir William traced the changes which the quadrurate underwent in the blood, and which led up to the deposition of sodium biurate in gout. These latter changes were connected with the

property possessed by the quadrurates of taking up in alkaline solutions an additional atom of base, and of thus being converted into biurates. It was this knowledge which permitted a coherent view to be presented of the succession of events which culminated in a paroxysm of gout. In the normal state the uric acid circulating in the blood as quadrurate was at once removed unchanged by the kidneys; but in the gouty state, either from defective kidney action or some other cause, the quadrurate remained in the blood, circulating in a medium which is rich in sodium carbonate, until it was transformed into sodium biurate, which is almost insoluble in blood serum, and is probably for that reason difficult of removal by the kidneys. In this way sodium biurate accumulated more and more in the blood, and when the accumulation had reached a certain point, was deposited in the crystalline form in the joints and elsewhere, thereby determining the occurrence of a fit of gout. Sir William Roberts based this view on a study of the reactions of blood serum and synovia with uric acid and the urates. In concluding he said gout was in essence a mode of nutrition associated with an error, which was uric acid; there was a colloidal form of uric acid, as well as the crystalline form, and the action of the two forms also differed. With regard to treatment, Sir William thought that if an attack was imminent a patient ought not to take mineral waters containing lime and soda, except very sparingly at first, and he thought that most of the good done at mineral springs was due to the water taken, and not to the salts contained in it.

Princess Christian presided at a drawing-room meeting, held at the residence of Dr. and Mrs. Symes Thompson, Cavendish Square, when Dr Schofield, of the National Health Society, developed a scheme which aims at giving all ladies an opportunity of acquiring a practical knowledge of personal and domestic hygiene by means of a fixed course of educational lectures and demonstrations in the autumn at local centres all over London. These lectures, it was urged, would be particularly suitable to girls after leaving school. At that period, owing to the sudden cessation of brain work, nervous diseases were encouraged. As Dr. Symes Thompson explained, the classes would be not surgical only, but would deal with the subject of preventive medicine.

Mr. Jonathan Hutchinson has completed the first of his four volumes of Archives. There is a paper on the leprosy problem, in which the author emphasizes his views upon the cause of the disease being connected with the eating of fish.

It is announced that the foundation stone of the new building for the Royal South London Ophthalmic Hospital will be laid by the Prince of Wales during the month of July.

A case of accidental wounding of the bladder by a decapitating hook, through the bed on which the patient was lying breaking down, just as the operator had completed the severance of the head, recently illustrated the necessity for the obstetrician to be sure that before he attempts any operation or operations the bed or table on which the patient lies is thoroughly secure. The hook in this case went completely through the anterior vaginal wall into the bladder. The wound was at once sewn up with two sutures and a catheter retained in the bladder. On the tenth day the sutures were removed, union being perfect.

Morphine in the urine is stated to be detected by adding a drop of liq. ferri sesquichloride, by which a blue color is at once produced. In this way the existence of morphinomania may be detected.

A great sensation has been caused through the objection of the General Medical Council to register the diplomas in public health granted by the University of Glasgow. G. O. M.

DOMESTIC CORRESPONDENCE.

How Diphtheria is spread by Corpses, through Carelessness in one Locality, and promptly restricted by a faithful Health Officer in another Locality.

To the Editor:—April 25, 1890, a copy of the *Atlanta Tribune*, Atlanta, Montmorency County, Mich., April 17, 1890, reached the office of the State Board of Health, in which appeared the following item:

"REPORTED TO BE OVER TWENTY CASES OF DIPHTHERIA IN AND AROUND VIENNA.—Vienna being an unincorporated village in Albert township, Montmorency county, a letter asking report and urging a prompt restriction of the alleged diphtheria was immediately sent to J. T. Dimmick, health officer of Albert township, May 8. The following reply was received:

"*Sir:*—This is to inform you that the item in the *Atlanta Tribune* was false. There has not been a case of diphtheria at or near Vienna. Dr. Warren, of Gaylord, said it belonged to la grippe and was not contagious. Yours truly, J. T. DIMMICK, Health Officer.

"P. S. Sulphur was burned as a disinfectant."

Just why disinfection was attempted if the disease was *not* communicable, remains to be explained. But that there was a fatal throat disease in or near Vienna, that communicated diphtheria in Lapeer county, was subsequently proved.

June 4, there was received from C. A. Wisner, M.D., health officer of Marathon township, Lapeer county, a final report of an oubreak of diphtheria in his jurisdiction, and in reply to the question as to "source of contagium and mode of introduction of the disease," he sent two certificates of death, given by F. C. Buchner, M.D., Atlanta, Montmorency county, which certificates were from the coffins of two corpses brought into Lapeer county. The certificates are as follows:

"Office of F. C. Buchner, Physician and Surgeon, Atlanta, Mich., March 23, 1890.

"To whom it may concern:

"This is to certify that Mrs. Dell Putman, of Vienna, died from suppurative tonsillitis, and that it is a disease not dangerous to the public health.

"FRANK C. BUCHNER, M.D."

"ATLANTA, MICH., MARCH 23, 1890.

"This is to certify that I was called to see the little girl Flossie Putman, and that it died of spasmodic croup, a disease not dangerous to the public health.

"FRANK C. BUCHNER, M.D."

That a man capable of practicing medicine, and especially one writing "M.D." after his name, could bring himself to sign two such certificates, on the same day, relative to two persons in one family, *both dead of throat disease*, certifying that it is "a disease not dangerous to the public health," and thus without precautions permit such dead bodies to go across the State to endanger the lives of innocent persons who rely upon such certificates, is, to say the least deplorable.

Dr. Wisner's report said:

The corpse of Mrs. Dell Putman, also that of her little girl, were brought from Vienna, Montmorency county, on the 24th of March, 1890, to her father's house here. Mary Tibbitts, a stepdaughter, was present, and helped to open the coffins and attend to the care of the dead until the funeral, which occurred on the 26th of March. I knew nothing of the nature of the disease that had caused their death at this time, but on talking with Mr. Putman on Tuesday, the 25th of March, I became convinced that it was diphtheria, but as I did not know positively, and they had a certificate from Dr. Buchner, stating that the disease which caused their death was not contagious, I could not very well prevent them holding a funeral. I notified them of my suspicions about the case, told the neighbors not to let any of their children go there at all, that the coffins should be closed tight, and not opened the next day at the funeral, which was held at their private resinence, one mile north of this village. I was censured some for the stand I took, but as subsequent events proved, I think I was right, for on the 31st of March, 1890, just one week from the day she helped open the coffin of Mrs. Dell Putman, she—Mary Tibbitts—was taken sick with diphtheria and was confined to her bed eight days. I inclose to you the certificates which came on each coffin. Please do not destroy them, as they might be wanted to be referred to some time. I promptly quarantined this case, which happily was the only one which occurred. I think by warning the neighbors, and the funeral being held privately, we prevented a greater spread of the disease. C. A. WISNER, M.D.

Columbiaville, Mich.

In this instance, through the care of the health officer, the outbreak of this very dangerous disease was promptly restricted, so that such fearful consequences as occurred from the similar instance at Zanesville, O., in the spring of 1890, were here averted. This is, therefore, one more instance enforcing the importance of requiring, in every case, a permit from the health officer of *the locality into which any dead body* is to be brought, and such notice of the time of the arrival of the corpse as will enable the health officer to take any precautions which he may deem to be necessary.

Any corpse dead from *any* disease is conclusive proof of the presence of a fatal disease—therefore one which, under certain circumstances, may be dangerous to the public.

Every local board of health in Michigan is authorized by law to make such a regulation as would provide for such notification, and to enforce, against any person or persons, the penalty for its violation. And as the people of any locality are liable, at any time, to be at the mercy, in this regard, of an ignorant, careless or culpable doctor in some distant place, ordinary prudence would seem to dictate that every local board of health should make and enforce a regulation requiring notice to the local health officer of the arrival of every corpse. HENRY B. BAKER, Sec'y.

Office of the Michigan State Board of Health, Lansing, June 7, 1890.

The Revision of the U. S. Pharmacopœia of 1890.

To the Editor:—Please find herein enclosed, a copy of report, by me, as Chairman of the Committee from this State, to Convention for Revision of U. S. P. 1890, held at Washington, D. C., May 7-10, and delivered to New Jersey State Medical Society June 11th.

As I think the report contains matter of importance to the entire medical profession, it is submitted to you; and I would say that it is my opinion the American Medical Association should take decidedly more interest in the work of the Convention. Very truly yours,

D. BENJAMIN, M.D.

Camden, N. J., June 12, 1890.

TO THE NEW JERSEY STATE MEDICAL SOCIETY.

Report of the Delegation to the Convention for the Revision of the United States Pharmacopœia of 1890.

The other delegates and alternates from the Society being unable to attend the Convention, I as Chairman, was compelled to be the sole representative of this Association at the Convention held in Washington from the 7th to the 10th of May last. About 200 delegates were present. I found this great State of New Jersey without due influence in this important convention; assuming that the United States Pharmacopœia belongs to the Convention, it appears to me that this Society should be very careful of its interest; I found that the Committee of Revision of 1880, had been the only Committee that had made any report of a financial balance in its possession, to the Convention; that it, the Committee, had given out the publishing and sale of the work to a firm of New York publishers who had sold the book at a high price and an edition of the same amounting to about 17,000 copies, the profits from which were variously estimated

at from $20,000 to $54,000, while the scientific gentlemen who did the real work of revision, seemed to have been unpaid, and the vast sum of money (the proceeds of the work), which should have been the property of the Convention, was lost to it. It is estimated that the work could be published at a sum which would enable it to be put upon the market and placed in the hands of druggists and physicians at about half the price they have had to pay, and at the same time leave in the hands of the Convention or Committee of Revision a sufficient sum to pay for all necessary expert work and also the expenses of the Convention, including the actual expenses of each delegate. We can hardly expect men to be so enthusiastic as to go from New Jersey or from California for the purpose of doing scientific work for the benefit of the profession and the public and at the same time pay all their own expenses. Such men are soon financially so crippled as to be very limited in the amount of work which they can do. I believe it would be better for this Society to pay the expenses of its delegates; to nominate them with great care and elect them, in open session for the next convention which meets in 1900. I find further that the medical profession is not sufficiently represented, either in the Convention or in the Committee of Revision. I find further that there is danger of the work being influenced too much by interested parties. Wholesale drug houses, manufacturing chemists, publishing houses and other interested parties, were present and were active in trying to influence the Convention. A motion to make dispensatory publishers pay $5,000 for the use of the copyright, was defeated, as was a motion to have a committee of business men appointed to attend to the financial affairs of the work. I hope that those of us who are living in 1900, will see to it that this Association is adequately represented in the great work of revising the Pharmacopœia.

Notwithstanding the foregoing criticism, very much excellent work was done by the Convention, most of which has already been published in the journals, and I have no doubt that so far as the scientific work and arrangements of the Pharmacopœia of 1890 are concerned, it will be a great improvement upon that of 1880.

Mr. Charles Rice, of New York, deserves especial mention as having done invaluable work.

The work is now in the hands of the Committee of Revision, which expects to have it ready for publication in about two years; meantime any suggestion from any member of this Association, can be forwarded to Dr. H. C. Wood, president of the Convention, and will be considered by the Committee. Respectfully submitted,

D. BENJAMIN, M.D.

Camden, N. J., June 9, 1890.

NECROLOGY.

Martin de Bartolome, M.D.

Dr. Martin de Bartolomé, of Sheffield, England, an ex-president of the British Medical Association, died suddenly, June 2, by angina pectoris, at the age of 77. Although of Italian parentage, he was "an Englishman in every sense of the word," and for nearly half a century stood in the front rank of his profession, in the esteem and affection of his Sheffield colleagues, to whom his sudden death was a shock most keenly felt. Dr. de Bartolomé had occupied many public posts of honor in local and other institutions, and not the least among them was the chair of the practice of medicine in the Sheffield School of Medicine.

Willis F. Westmoreland, M.D.

Dr. Willis F. Westmoreland, of Atlanta, Ga., died June 27, aged 62 years. He was a native of Georgia, a graduate at Jefferson College, a post-graduate student for three years of surgery, at Paris, chiefly, and became professor of surgery in the Atlanta Medical College, of which he was one of the organizers in 1854. During the late war he served as surgeon with the Confederate forces. He was one of the founders of the *Atlanta Medical and Surgical Journal* in 1855. He was President of the Georgia Medical Association in 1873, and Vice-President of the American Association in 1879.

BOOK REVIEWS.

CLINICAL DIAGNOSIS: THE BACTERIOLOGICAL, CHEMICAL AND MICROSCOPICAL EVIDENCE OF DISEASE. By DR. RUDOLF V. JAKSCH, Professor of Special Pathology and Therapeutics and Director of the Medical Clinic in the German University of Prague. Translated from the Second German Edition by JAMES CAGNEY, M.A., M.D., Demonstrator of Anatomy, St. Mary's Hospital and Medical School; Physician to out-patients, Hospital for Epilepsy and Paralysis, Regent's Park. With an Appendix by WM. STERLING, M.D., Sc.D., Brackenbury Professor of Physiology and Histology in the Owens College, and Professor in Victoria University, Manchester. With numerous Illustrations, partly in Colors. London: Charles Griffin & Co. Philadelphia: J. B. Lippincott Co. 1890.

This is a new and valuable work. The first German edition was quickly exhausted, and a second one, fresh from the hands of the author, has just been translated into English, and is pre-

sented to the American medical profession admirably illustrated and in the superior style characteristic of the publications of the J. B. Lippincott Co. It is worthy of a first place as a text-book, and dealing as it does in a most critical manner, with the bacteriological, chemical and microscopic evidences of disease, the latest literature upon these subjects is here so presented as to make it a book of great value both to medical practitioners and medical students.

Under as many separate chapters with appropriate subdivisions, the author gives very exhaustive studies of the Blood; the Buccal Secretion; the Nasal Secretion; the Sputum; the Gastric Juice and Vomit; the Fæces; Examination of Urine; Investigation of Exudations, Transudations and Cystic Fluids; the Secretions of the Genital Organs, and lastly an especially valuable chapter on the Methods of Bacteriological Research. A valuable appendix is also added by the translator, Professor Sterling. The illustrations will be found to be exceedingly helpful to those engaged in practical work. It is just such a work as can serve a valuable purpose as a class text-book in our medical colleges, where class recitations are required. It is an octavo of 350 pages, and comes to us from the well known firm of A. C. McClurg & Co., 117–121 Wabash Ave., Chicago. Price $6.50.

REGIONAL ANATOMY IN ITS RELATION TO MEDICINE AND SURGERY. By GEORGE MCCLELLAN, M.D., Lecturer on Descriptive and Regional Anatomy at the Pennsylvania School of Anatomy; Professor of Anatomy at the Pennsylvania Academy of the Fine Arts; Member of the Association of American Anatomists, Academy of Natural Science, Academy of Surgery, College of Physicians, etc., of Pennsylvania. With about 100 full-page facsimile illustrations reproduced from photographs taken by the author of his own dissections, expressly designed and prepared for this work, and colored by him after nature. To be complete in two volumes of 250 pages each. Large quarto. Philadelphia: J. B. Lippincott Co.

The object of this work is to convey a practical knowledge of regional anatomy of the entire body; the text to embrace, besides a clear description of the part in systematic order, the most recent and reliable information regarding anatomy, in its medical and surgical relations. The illustrations are intended to verify the text and to bring before the reader the parts under consideration in as realistic a manner as possible. Vol. I will be ready for publication about December 1, and the second volume is expected to appear shortly thereafter. The work will be sold by subscription only; and salesmen will begin an active canvass the coming October.

MISCELLANY.

HEALTH IN MICHIGAN.—For the month of June, 1890, compared with the preceding month, the reports indicate that typhoid fever, cholera infantum, cholera morbus, dysentery, diarrhœa and intermittent fever increased, and that tonsillitis, cerebro-spinal meningitis, typho-malarial fever, pneumonia, pleuritis and whooping-cough decreased in prevalence.

Compared with the preceding month the temperature was much higher, the absolute humidity and the relative humidity were more, the day ozone and the night ozone were less.

Compared with the average for the month of June in the four years 1886–1889, membranous croup and measles were more prevalent, and typho malarial fever, cerebro-spinal meningitis, puerperal fever and whooping-cough were less prevalent in June, 1890.

For the month of June, 1890, compared with the average of corresponding months in the four years 1886–1889, the temperature was higher, the absolute humidity was more, the relative humidity was about the same, the day ozone and the night ozone were slightly less.

Including reports by regular observers and others, diphtheria was reported present in Michigan, in the month of June, 1890, at 58 places, scarlet fever at 52 places, typhoid fever at 28 places, and measles at 108 places.

Reports from all sources show diphtheria reported at 4 places less, scarlet fever at 3 places less, typhoid fever at 4 places less, and measles at 5 places less in the month of June, 1890, than in the preceding month.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U.S. Army, from June 28, 1890, to July 4, 1890.

First Lieut. William N. Suter, Asst. Surgeon, is granted leave of absence for two months, to take effect August 6, 1890. By direction of the Secretary of War. Par. 3, S. O. 149, A. G. O., June 26, 1890.

Major James P. Kimball, Surgeon, is granted leave of absence for four months, to take effect when an officer of the Medical Department is assigned by his department commander to relieve him. By direction of the Acting Secretary of War. Par. 6, S. O. 152, A. G. O., Washington, July 1, 1890.

By direction of the Secretary of War, the following named Asst. Surgeons (recently appointed) will report in person for duty to the commanding officers of the posts designated opposite their respective names:

First Lieut. Frank R. Keefer, Ft. Leavenworth, Kan.
First Lieut. Thomas U. Raymond, Ft. Sherman, Idaho.
First Lieut. Henry D. Snyder, Ft. Reno, Ind. Ter.
First Lieut. Allen M. Smith, Ft. Snelling, Minn.
First Lieut. Ashton B. Heyl, Ft. Niobrara, Neb.
First Lieut. Joseph T. Clarke, Ft. Riley, Kan. Par. 6, S. O. 151, A. G. O., Washington, June 28, 1890.

Capt. William H. Corbusier, Asst. Surgeon, is relieved from duty at Ft. Lewis, Col., and will report in person to the commanding officer, Ft. Wayne, Mich., for duty. Par. 7, S. O. 151, A. G. O., Washington, June 28, 1890.

First Lieut. Robt. R. Ball, Asst. Surgeon, is relieved from duty at Ft. Riley, Kan., and will report in person to the commanding officer, Ft. Spokane, Wash., for duty. Par. 7, S. O. 151, A. G. O., Washington, June 28, 1890.

CORRIGENDA.

In the issue of July 5, page 17, top line, second column, for "Dr. Robert," read *Dr. J. M. Rotch*. Page 18, line 36, first column, for "securing sugar" read *occurring sugar*. Page 19, twelfth line from bottom of first column, for "piled on to racks" read *filled into sacks*. Page 20, line 33, first column, for "one three-hundredths," read *one three-thousandths*.